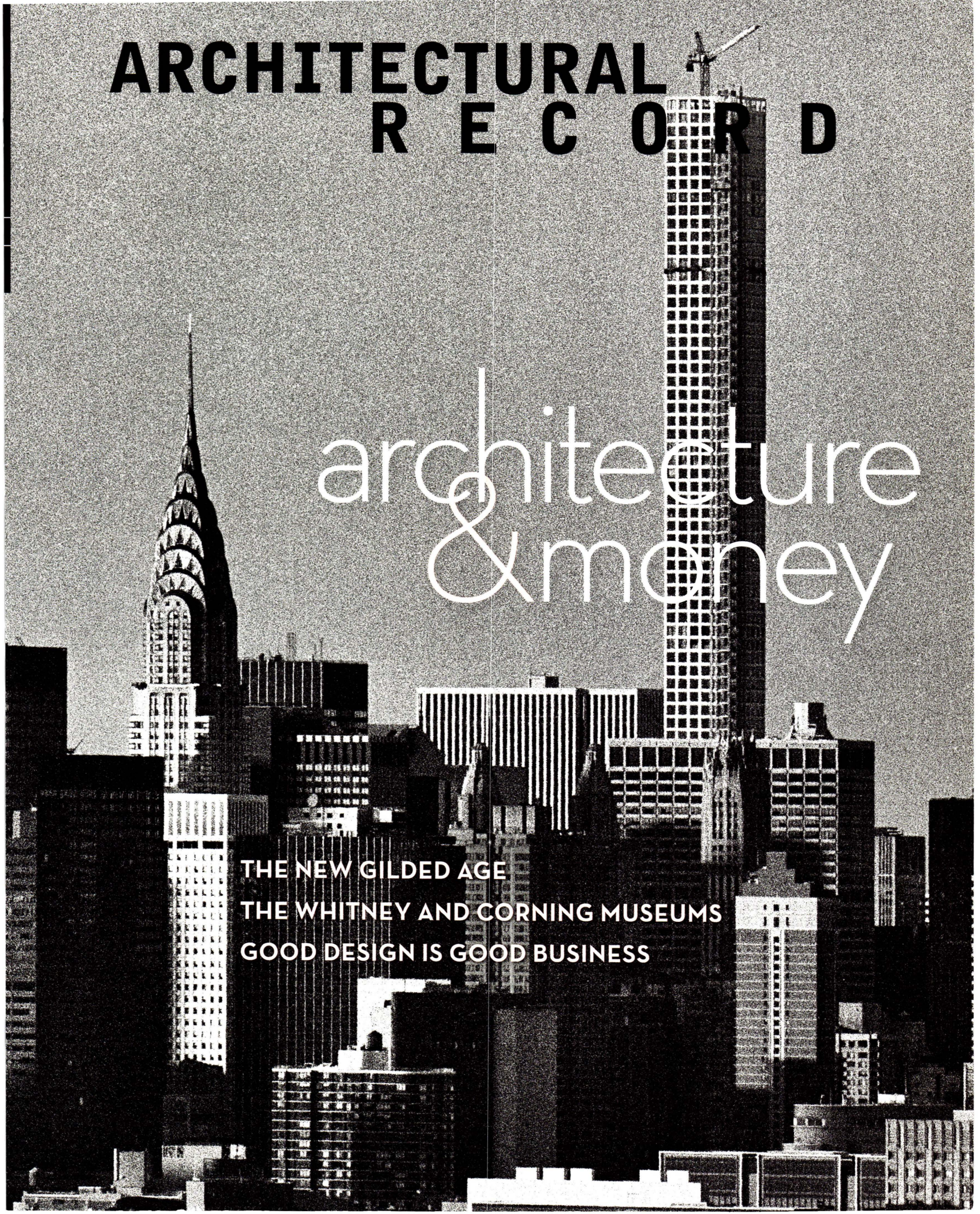
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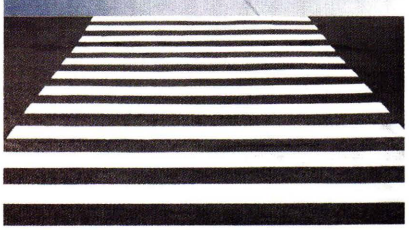
architecture & money

THE NEW GILDED AGE

THE WHITNEY AND CORNING MUSEUMS

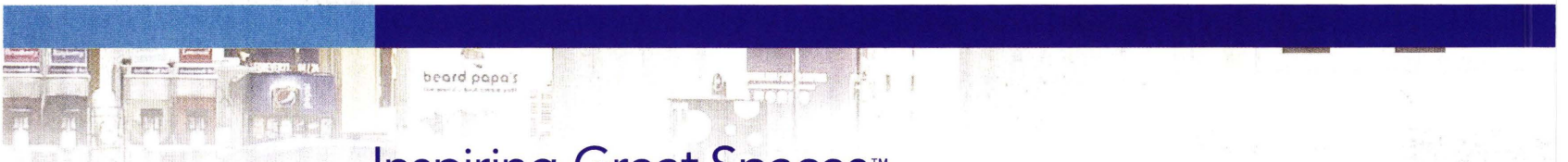
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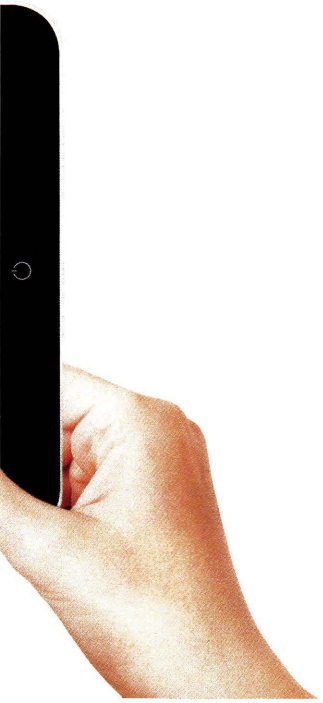
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BUILDING: Westfield Santa Anita Mall, Arcadia, CA
ARCHITECT: Westfield Design & Construction, Los Angeles, CA

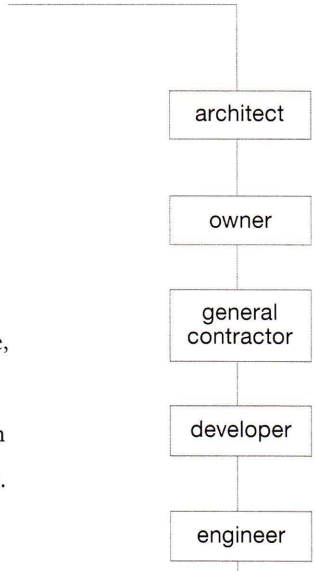
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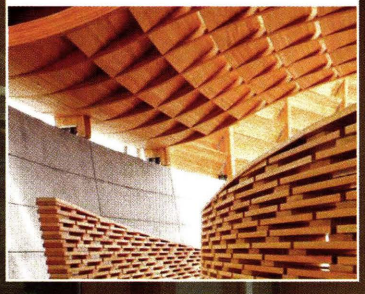
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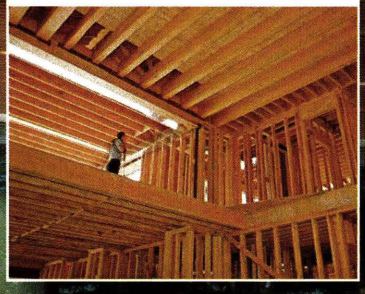
Rethinking Wood as a Material of Choice

reThink Wood



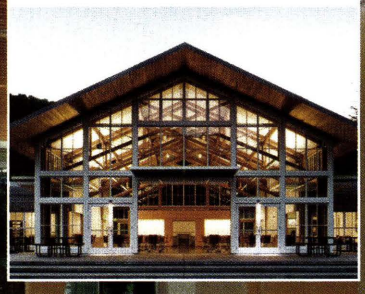
Evolving Building Codes and the Wood Revolution

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Wood Products and Green Building

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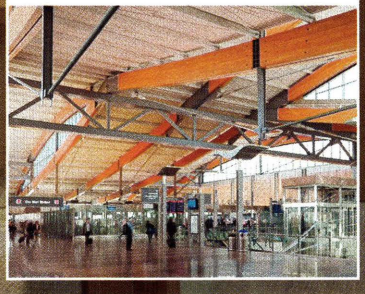
Evaluating the Carbon Footprint of Wood Buildings

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Connection Solutions for Modern Wood Buildings

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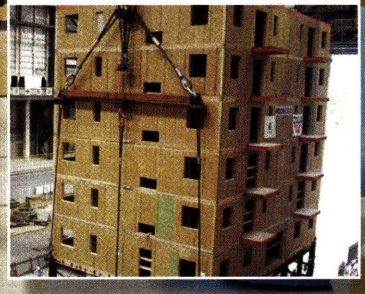
Design Is in the Details

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Multi-Story Wood Construction

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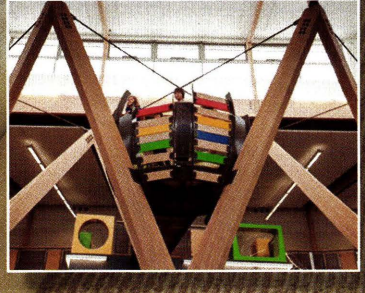
Tall Wood Takes a Stand

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The Human Response to Wood

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Meeting and Exceeding Energy Objectives in Wood Buildings

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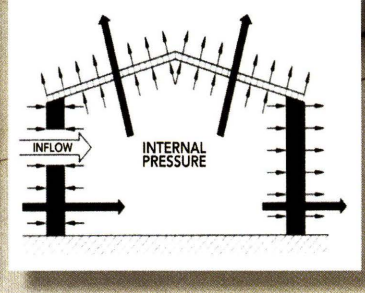
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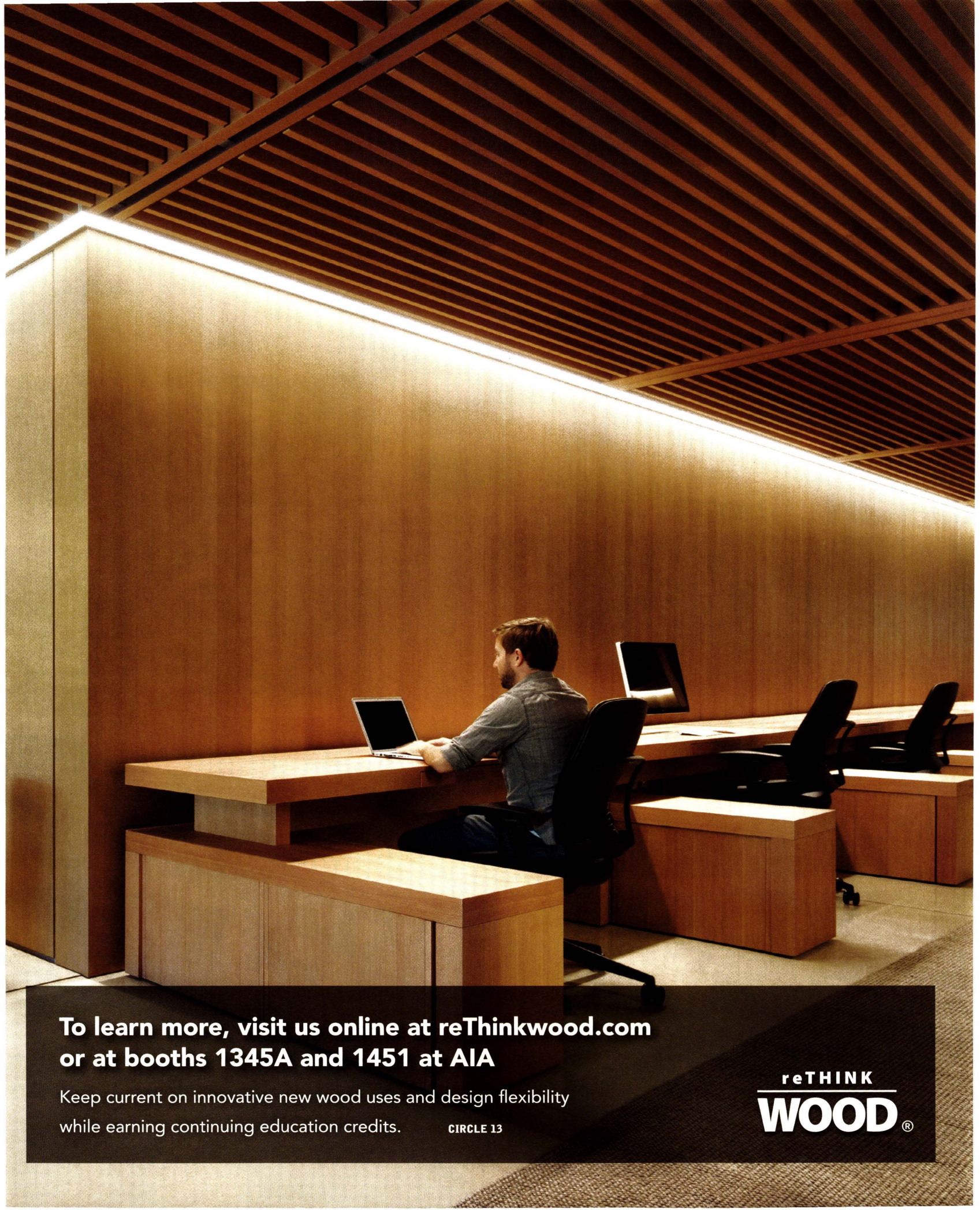


Wind-Resistive Design of Wood Buildings

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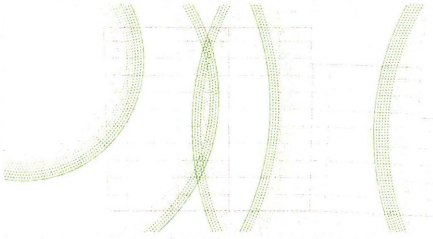
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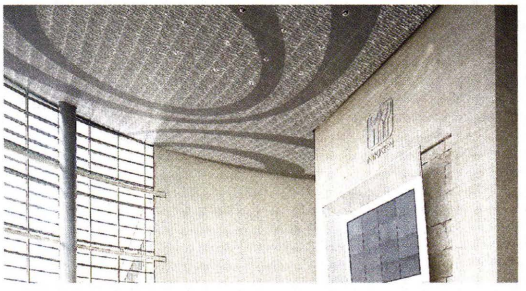

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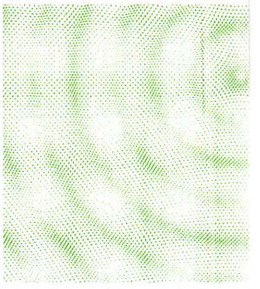
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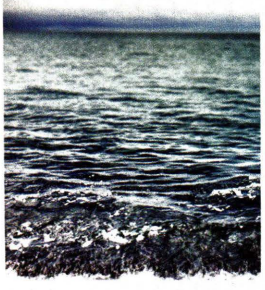
What's the Big Idea?

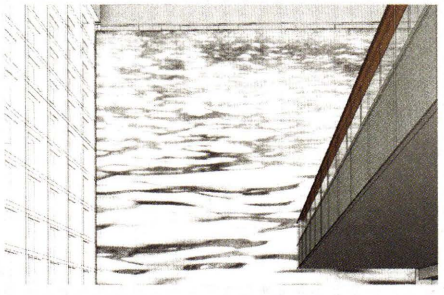


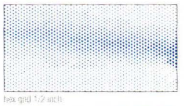


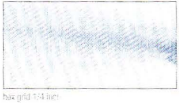




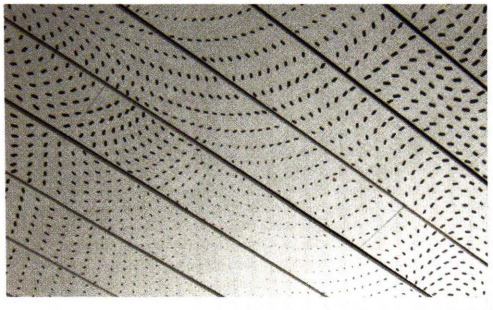


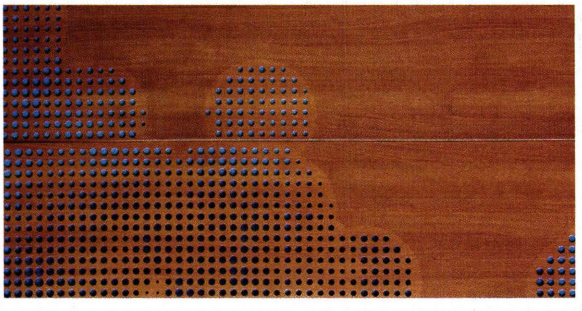




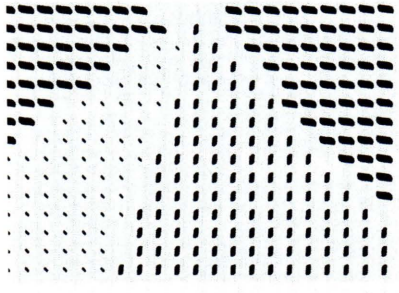


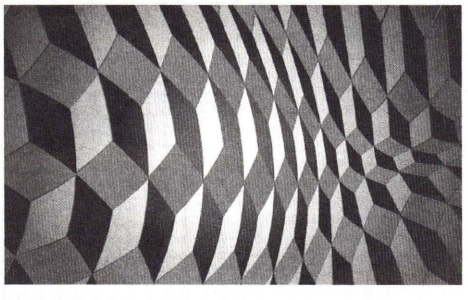


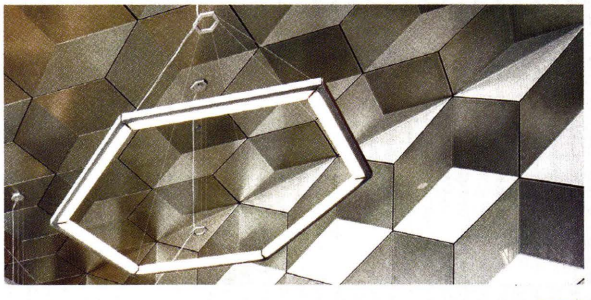


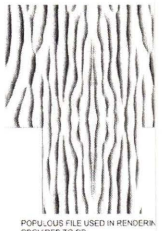




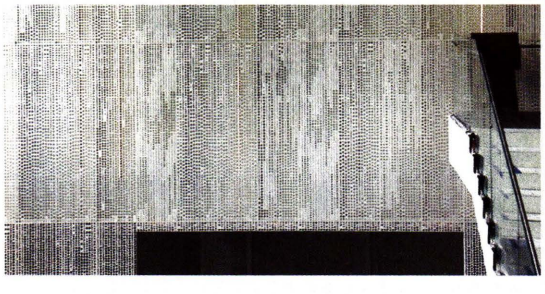


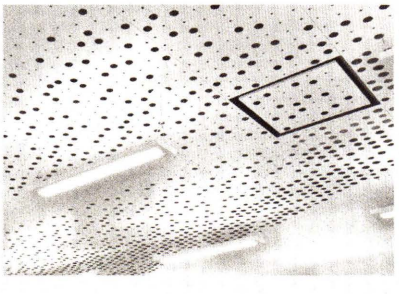


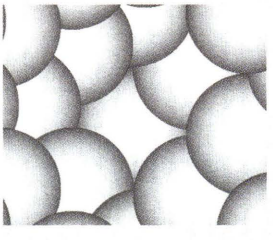


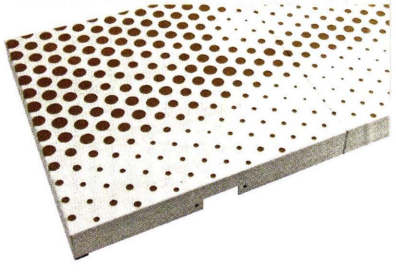


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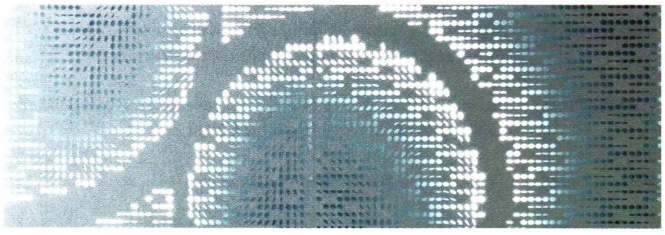


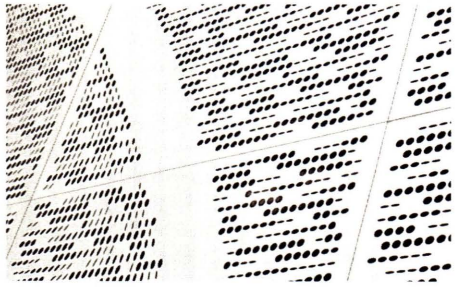


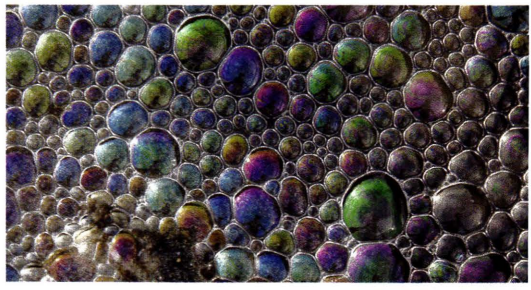




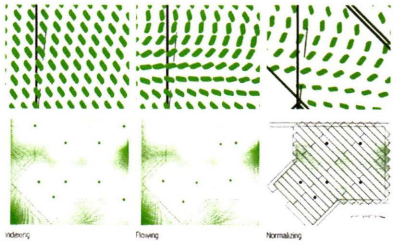
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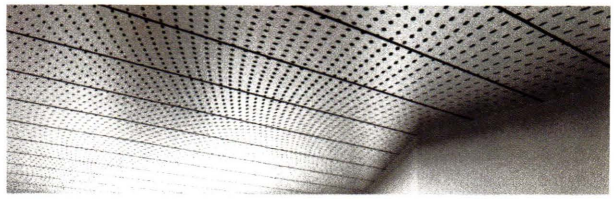


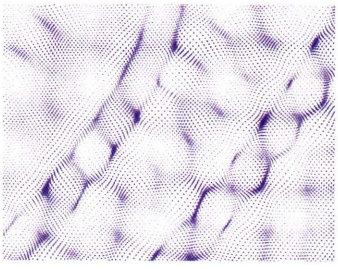




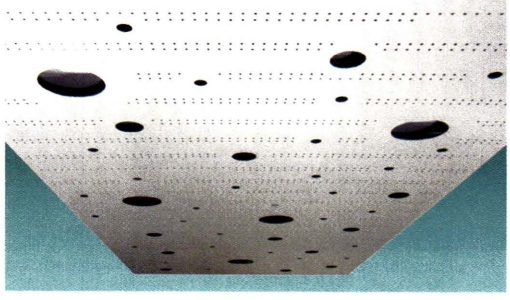


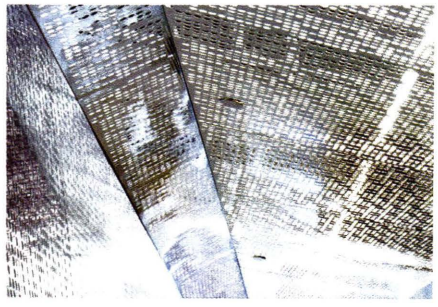


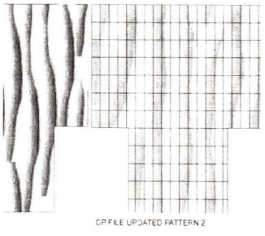




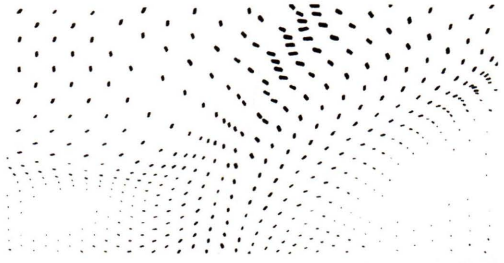


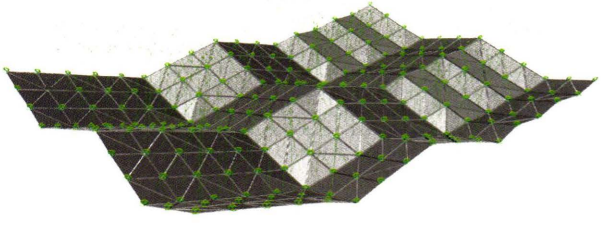


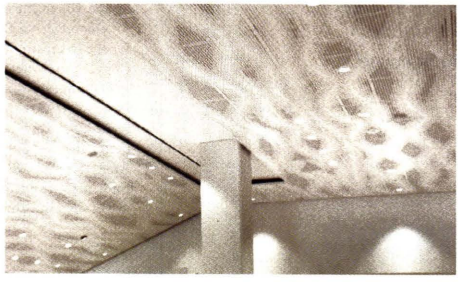








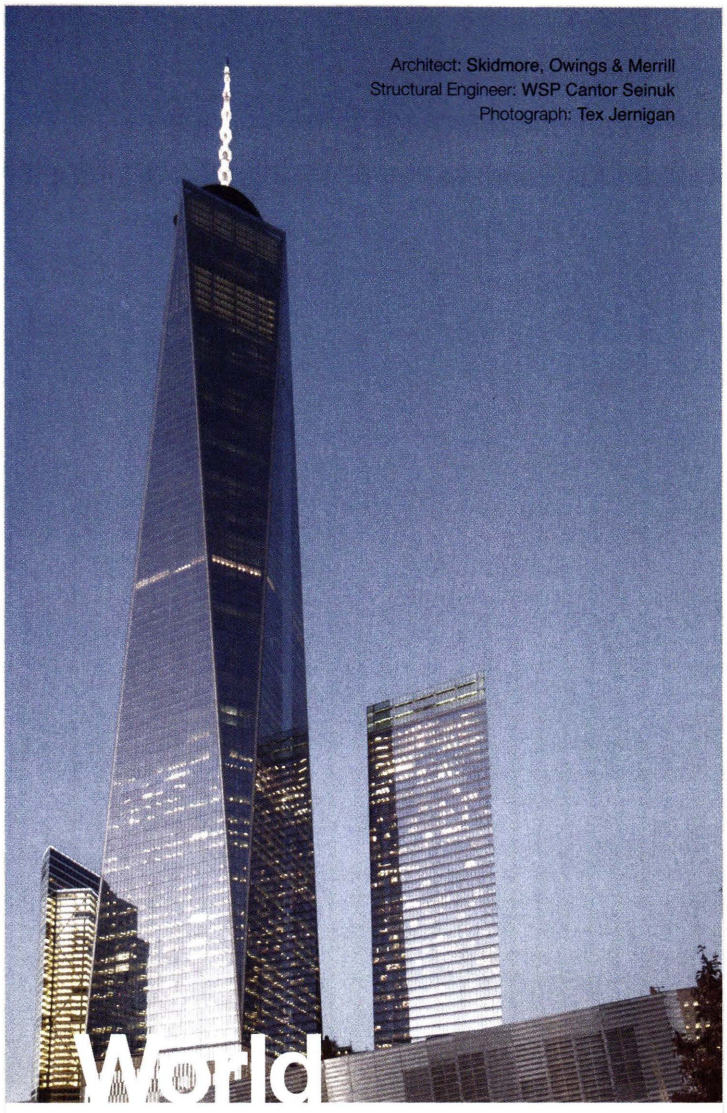






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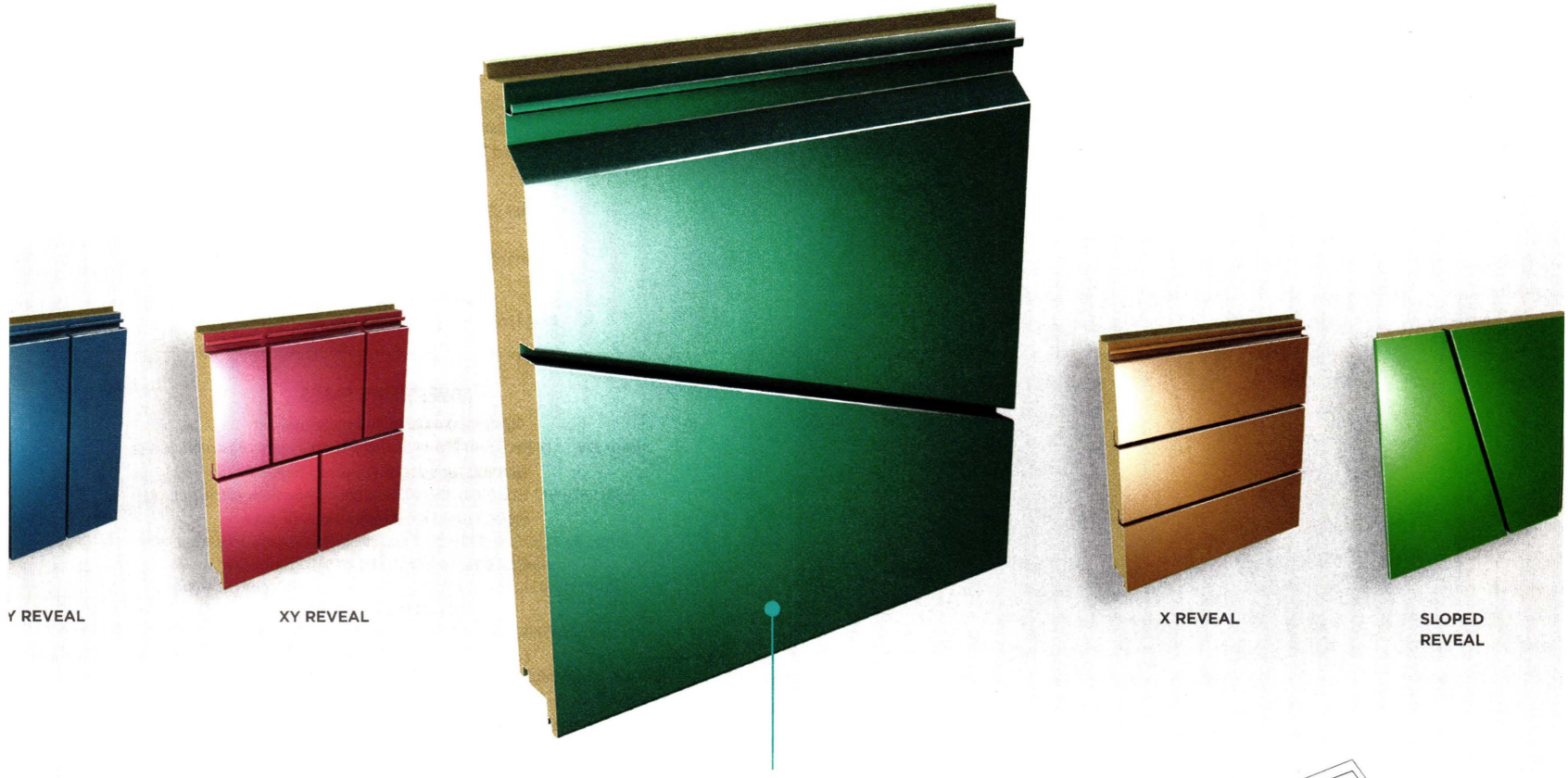
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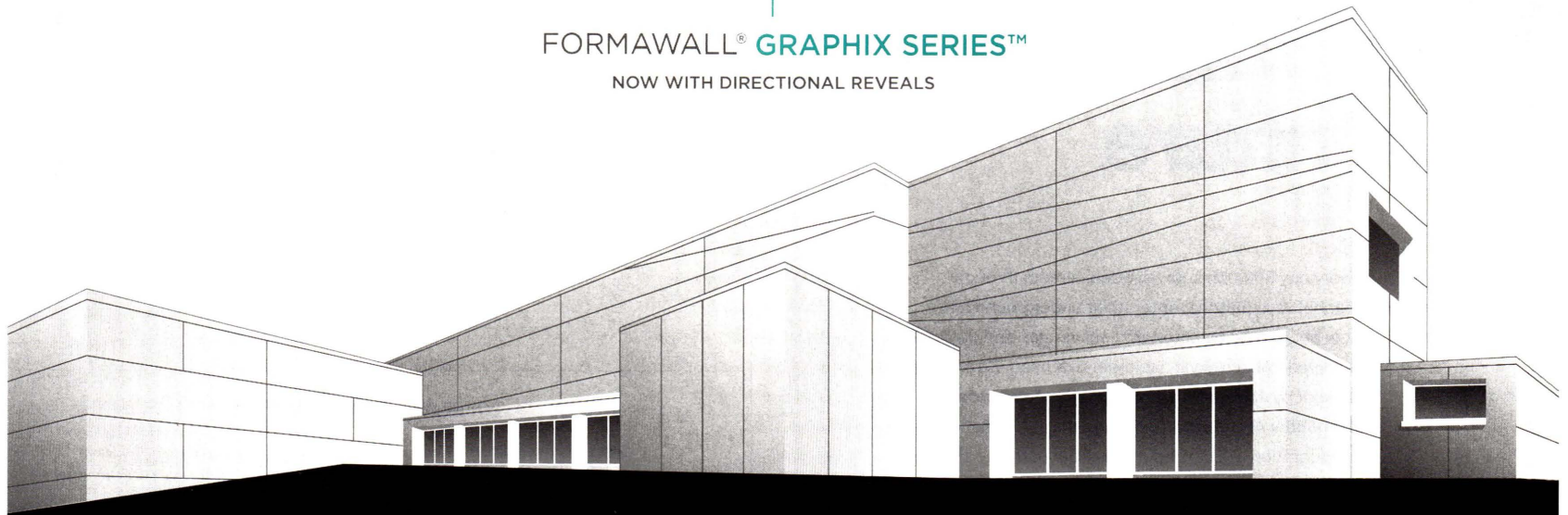
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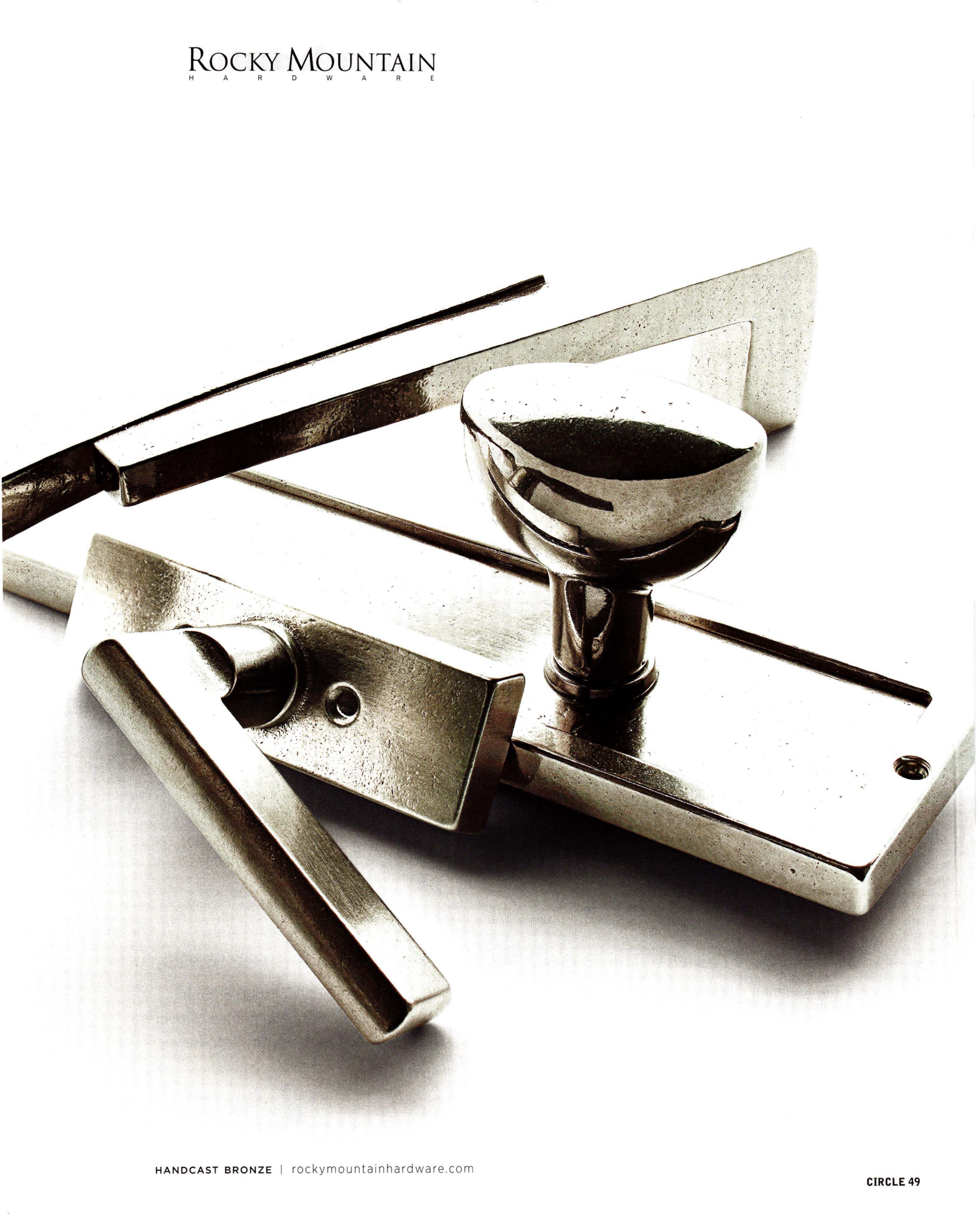
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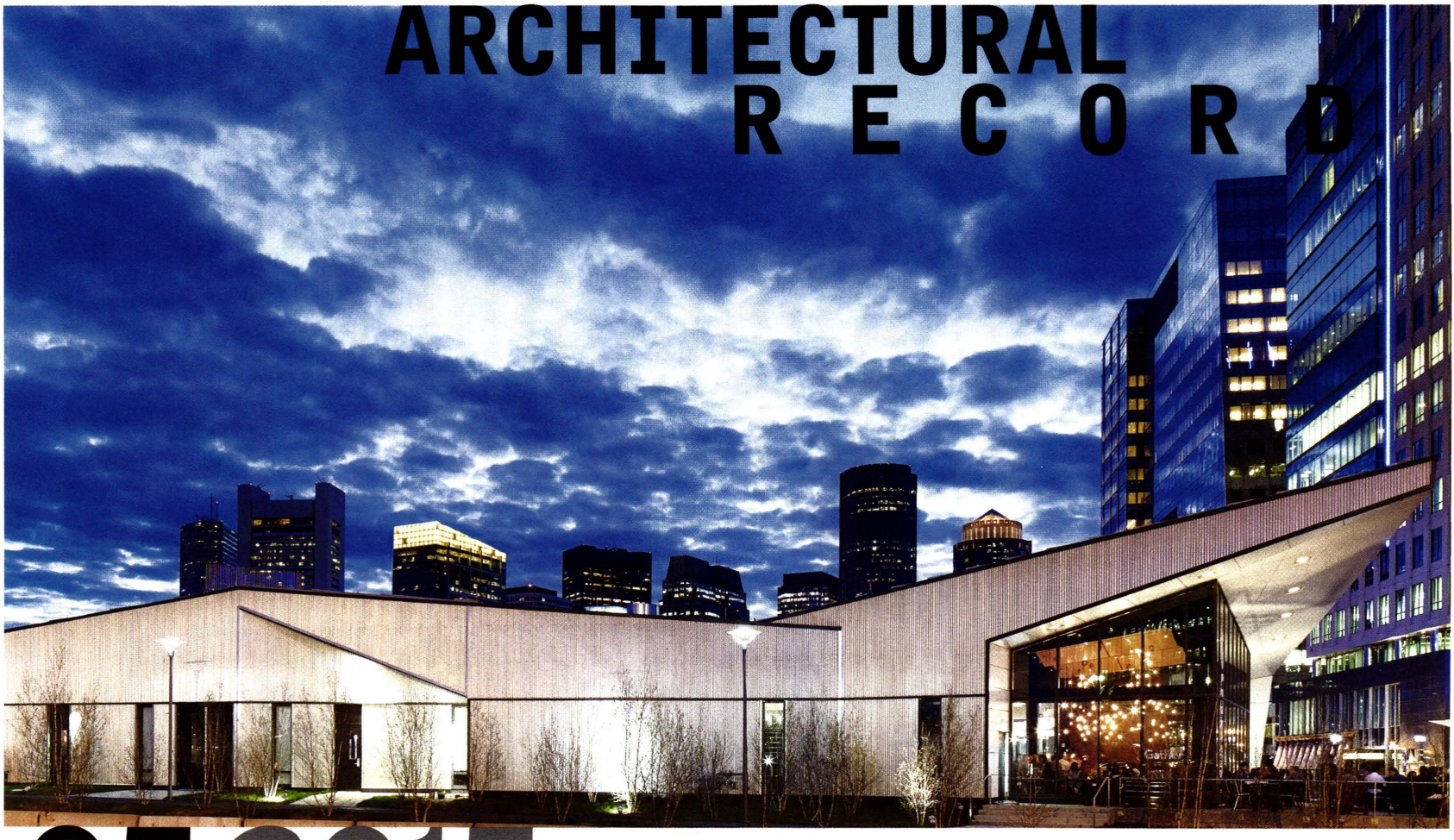
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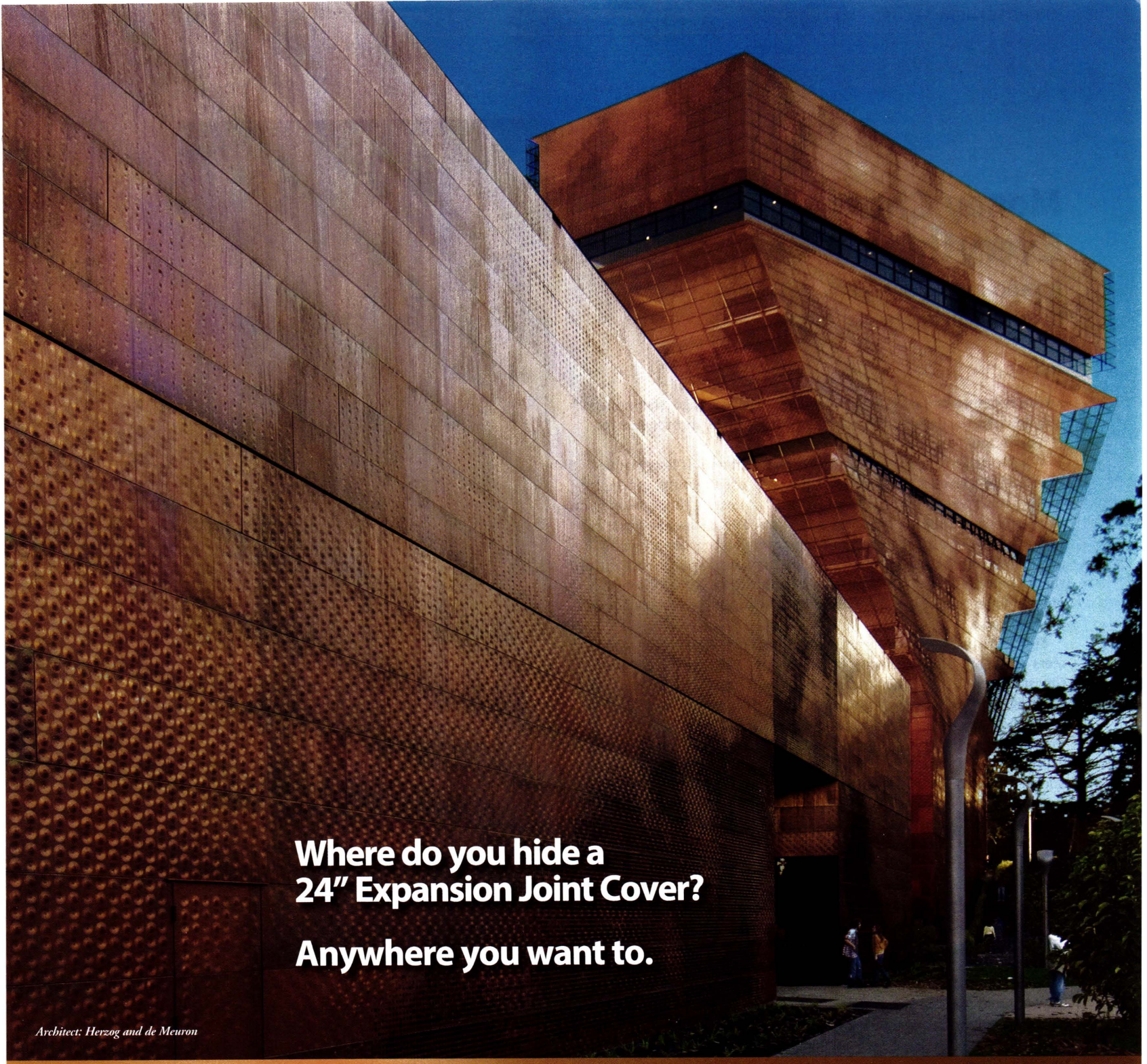
ON THE COVER: RAFAEL VIÑOLY'S 432 PARK AVENUE IN THE MANHATTAN SKYLINE. PHOTO BY JAMES EWING.

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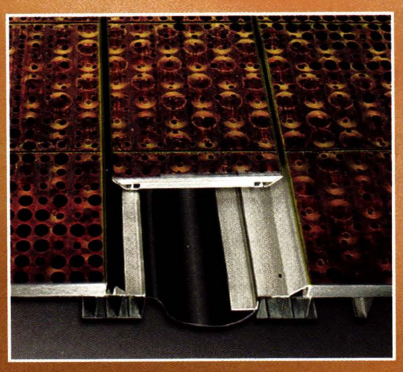
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Money Changes Everything

A rebounding economy pushes luxury real estate sky-high



ARCHITECTURE IS a cyclical business. Just five years ago, the industry was down in the depths, and now the profession, by most measures, is rebounding.

What's striking about the current economic boom is how visible the flood of money is that's pouring into new architecture, especially in New York, where an infusion of wealth has pushed the development of a residential building type to new heights. These super-slender, supertall condominium towers are controversial: they are radically altering the city's fabled skyline, and the luxurious apartments within them are selling for sky-high prices—even north of $100 million—a phenomenon that only reinforces the gap between the very rich and everyone else.

Signature architecture is central to this trend. High-profile architects add value and reduce risk for developers. Pritzker Prize–winners Christian de Portzamparc, Jean Nouvel, and Herzog & de Meuron have all designed Manhattan condo towers that hover around 1,000 feet tall, while the city's tallest dwelling so far, 432 Park Avenue, by Rafael Viñoly (1,396 feet), will be completed this year. Others even taller are waiting in the wings, by SHoP and Adrian Smith + Gordon Gill. Miami, another hot spot for high-end condos (if not nearly as high as New York's) has seen growing demand from second-home buyers, including many from Latin America, with residential buildings planned or under construction by Zaha Hadid, Rem Koolhaas, Richard Meier, and Bjarke Ingels. And in Chicago, Jeanne Gang recently unveiled a new 1,100-foot-high residential/hotel complex. We are living in a New Gilded Age, and you can read more about it in this issue of RECORD (page 149).

In New York, the push for super-slender skyscrapers comes at the time of soaring prices for real estate. These towers are being built on tiny patches of extremely expensive Manhattan property—the 1,428-foot-high SHoP design will sit on a footprint that's just 60 feet wide. Incorporated into the skyscraper's base will be the 1925 landmarked Steinway showroom, designed by Warren & Wetmore. The piano maker agreed to sell its building to SHoP's client, JDS Development Group, for $56 million.

But it's one thing for a company like Steinway to make a tough business decision to let go of such an asset, and quite another for a not-for-profit institution with a long history of serving the public to succumb to similar real-estate pressures. Look at the case of the Museum of Modern Art in New York. MoMA had carefully acquired property around its midtown Manhattan site for decades, enabling several additions to its facilities. But after the expansion by Yoshio Taniguchi opened in 2004, MoMA's board of trustees decided to sell an adjacent vacant parcel. Why sell? According to MoMA director Glenn Lowry, the land had just become too valuable. So the museum sold the property to the Hines company, to develop the supertall 82-story Nouvel condo tower, which has just begun construction. The skyscraper will include three floors for MoMA, adding 36,000 square feet to the museum's exhibition spaces. But after that, the museum will be hemmed in. Forever.

What's more, the museum sold the land, in 2007, for $125 million (and sold its air rights last year for about $14 million). Maybe that looked like a smart move eight years ago, if you were in the real-estate business—as MoMA's board chair is—but was it a good strategy for an institution that plans to be around a century from now? $125 million barely buys a great Picasso these days—and maybe that's what a top apartment in the Nouvel tower could sell for eventually.

Across the street from MoMA, the New York Public Library sold its second-busiest branch, the Donnell Library, to a developer in 2007, too—for $59 million. A hotel and condo complex called Baccarat has just opened on the site, designed by Skidmore, Owings & Merrill (with a small branch library squeezed in, designed by Enrique Norten). The duplex penthouse is listed for—you guessed it—$60 million.

Of course, comparing yesterday's property values to today's in-demand luxury apartments may seem like apples and oranges. And it is. The value to a vibrant nonprofit institution that may want to grow further to fulfill its mission is not the same as the bottom-line values of a commercial enterprise. How much was the potential of that land worth to MoMA's future—$125 million? $500 million? Actually, it was priceless.

Cathleen McGuigan

Cathleen McGuigan, Editor in Chief



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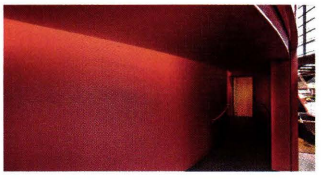
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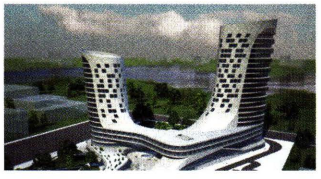


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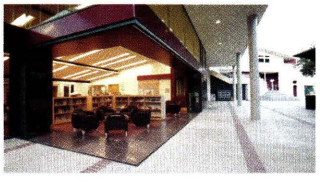


About Face: Giving Existing Towers a Modern Edge With Recladding

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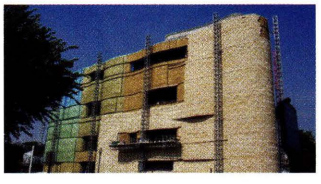


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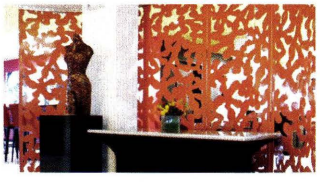
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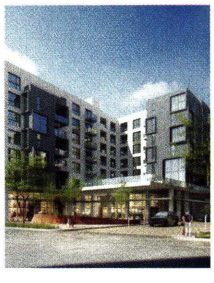
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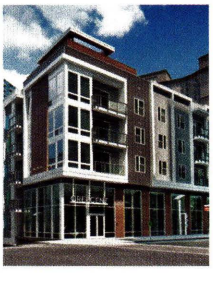
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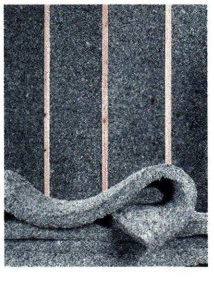
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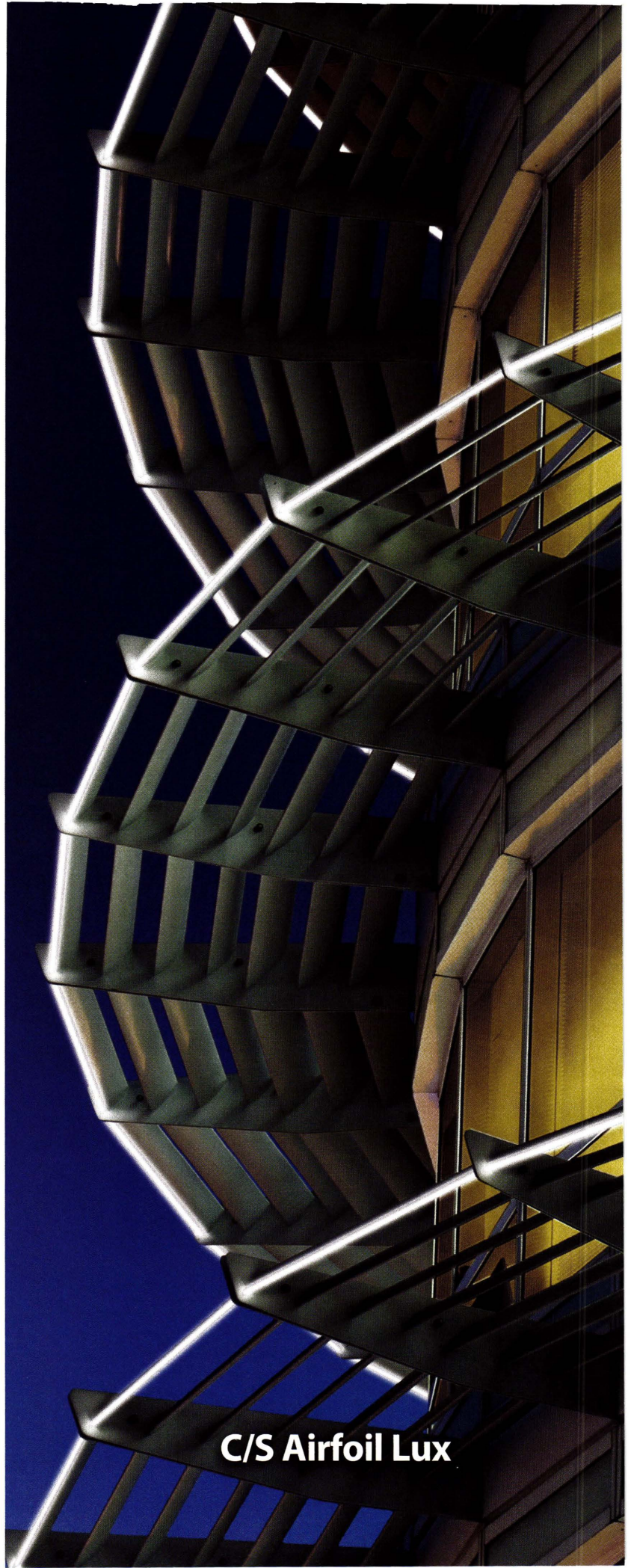
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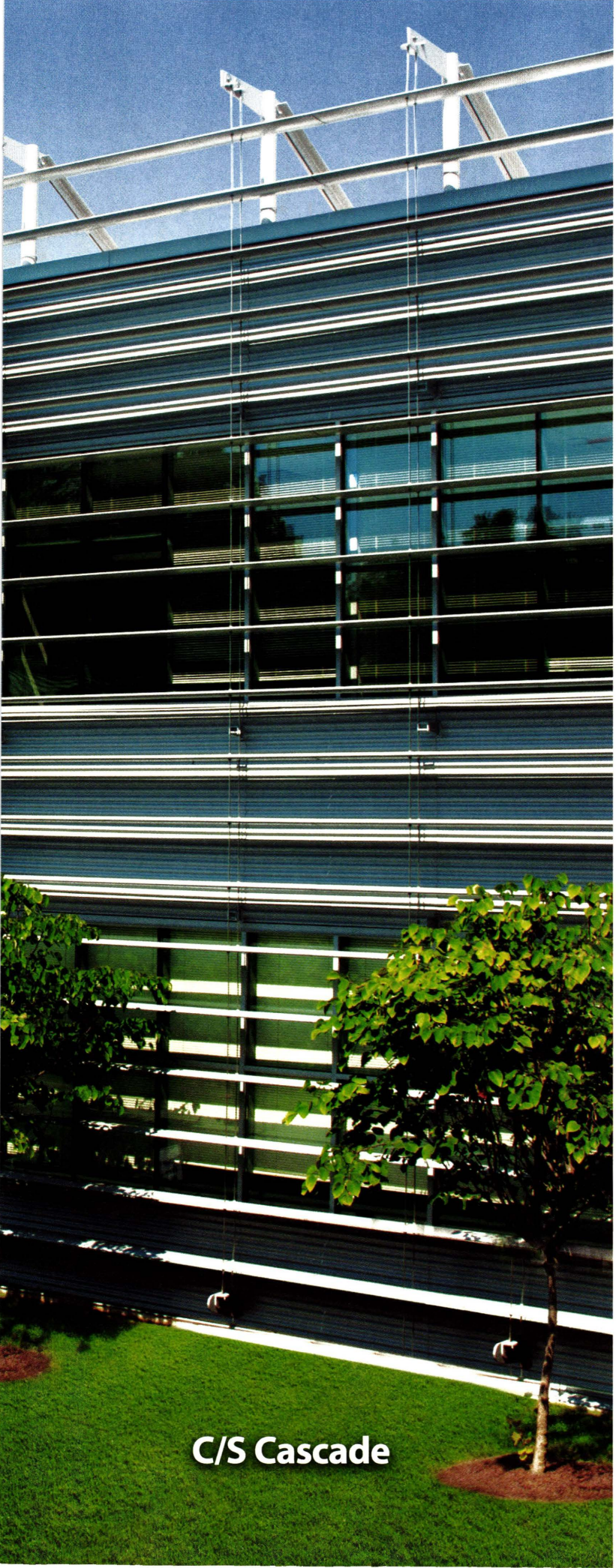
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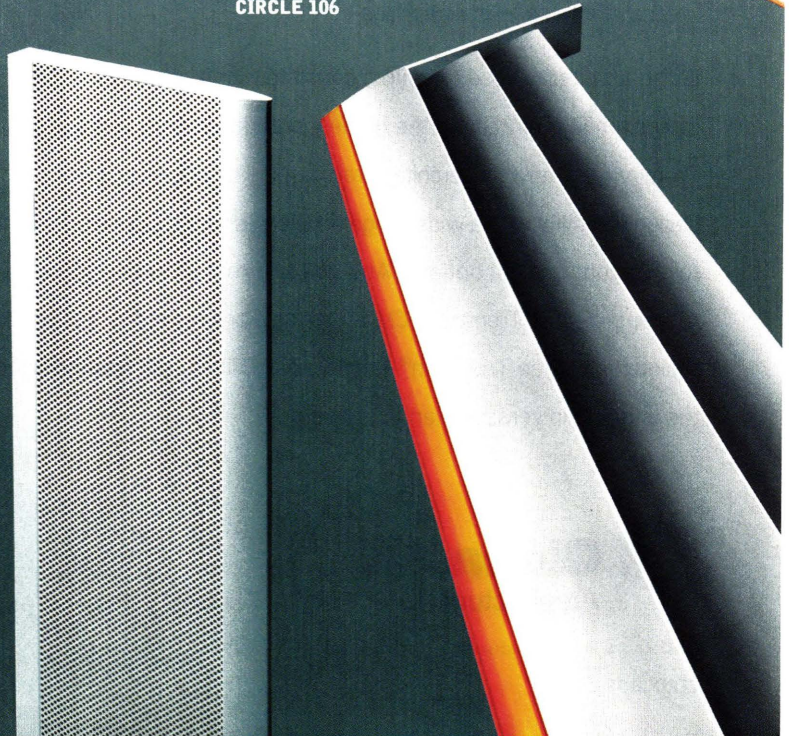
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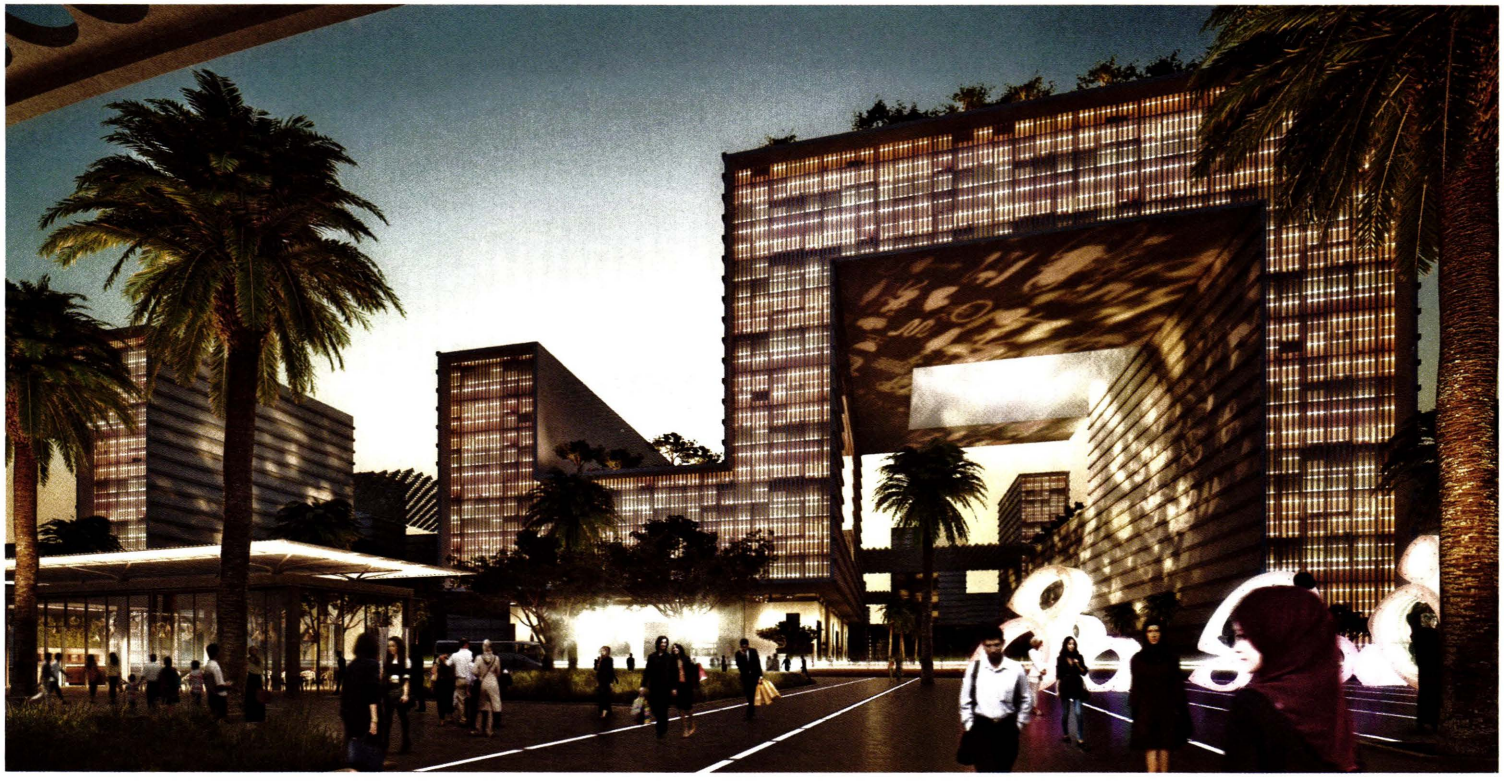
perspective

With today's mathematically generated super-spires, it's best to paraphrase Mae West: "Architecture has nothing to do with it."

—*Martin Filler, "New York: Conspicuous Construction,"* The New York Review of Books

SOM Plan for New UAE-Backed Egyptian Capital Sparks Controversy and Questions

BY MOHAMED ELSHAHED



The Capital Cairo, a new SOM-designed development outside of Cairo meant to accommodate Egypt's unprecedented population growth, will purportedly include, among other features, an innovation district "2.5 times the area of Boston's Kendall Square," according to a press release.

DURING THE Egypt Economic Development Conference held in March at the resort town of Sharm El Sheikh, the Egyptian government unveiled a vision for building a new capital city, a project unimaginatively christened The Capital Cairo. The master plan, designed by Skidmore, Owings & Merrill (SOM), was touted at the conference as one of several megaprojects that promise to transform Egypt's economy, create jobs, and attract international investment. Heads of state, including Egyptian President Abdul Fattah el-Sisi and emir of Dubai Sheikh Mohammed bin Rashid Al-Maktoum, stood around an architectural model of the proposed capital and marveled at the prospect of a new city in a stretch of military-controlled desert between present-day Cairo and the Red Sea.

Given Egypt's recent turbulent politics and dire human rights record, the relationship between the existing metropolis of Cairo and the proposed capital city is ambiguous: will the development be an independent twin city to the present-day Cairo less than 75 miles away? Will the proximity of the two cities risk turning the new capital project into yet another desert expansion like its two existing satellite cities, New Cairo and 6th of October City?

Renderings of the new $45 billion capital released by SOM show a sprawling 270-square-mile metropolis—approximately the size of Singapore—of low-rise buildings surrounding a cluster of skyscrapers. According to a Capital Cairo press release, the city will accommodate more than 7 million inhabitants in over 100 neighborhoods and boast such amenities as a theme park six times the size of Disneyland. Despite Egypt's water shortage and increased power outages, the desert landscape is rendered as green and promises one of the world's largest networks of urban parks. The street-level renderings show a modern city that could be anywhere—only the addition of palm trees and veiled women hint that this city of the future might be in the Middle East.

This kind of design is nothing new for SOM: the firm has been active in the Middle East for 50-plus years, with more than 180 projects ranging from airports and corporate towers to landmark structures such as Dubai's ½-mile-tall Burj Khalifa. The firm has also been involved in providing master plans for large-scale urban developments, most notably Bahrain Bay in Manama and the King Abdullah Economic City in Saudi Arabia, an estimated $90 billion investment under construction along the Red Sea coast.

RENDERINGS: © SOM

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These proposed cities aim to relieve congestion, control urban sprawl, and generate investment. But this wave of Middle Eastern cities comes at a time when major historic centers in Syria and Iraq have been seriously damaged by war, wide-scale human displacement is taking place, and mass protests have erupted against dictatorships across the region and been silenced by authorities.

In Egypt, plans for a new administrative district have circulated before, most notably as part of the Cairo 2050 vision, a plan proposed in 2007 calling for the redistribution of the city's population and the demolition of areas with unsafe buildings. However, there was no public knowledge or discussion regarding the recently announced new capital city prior to the plan's unveiling.

Not surprisingly, reception of the project is marred by controversy. Arguments against the proposal contend that the Egyptian constitution, ratified in January 2014, clearly defines Cairo as the capital city of Egypt, and that planning and announcing a new capital city in the absence of a parliament and without public dialogue is a clear violation of the rule of law. Others argue that the government is simply escaping its responsibilities, allowing existing cities to continue to deteriorate and building new ones on a tabula rasa. Since the 1970s, there has been a policy of building desert housing developments to absorb population growth, but these efforts, in spite of huge expenditures, have largely failed because of poor planning, management, and lack of efficient transport.

The Capital Cairo also has the potential to become the world's first privatized capital city. While the Egyptian government, with various ministries including the Housing Ministry, is providing legal and logistical support for the project, the Egyptian military controls the desert land where the project is to be realized. A 1997 presidential decree gave the military control over undeveloped land, with little to no oversight from civilian institutions. Since then, the military has made several deals with private companies to develop exclusive communities for maximum profit. President Abdul Fattah el-Sisi clarified in a statement that The Capital Cairo will not be built with public funds, clearing the way for the possibility of private capital to take over entirely.

In the case of The Capital Cairo, the private developer is a company in the United Arab Emirates. According to a spokesperson from SOM, the client is Eagle Hills, an Abu Dhabi–based company with Mohamed Alabbar (who, with his company Emaar, also developed the Burj Khalifa) on its board. A representative from Eagle Hills, Amira El Zoheary, however, told RECORD in an e-mail that the company "has nothing to do with the project" and that another company, Capital City Partners Limited (for which Alabbar is also a founding partner), is the primary developer of the new capital.

There are also conflicting reports about the expected date of completing the proposed capital city. While the initial announcement promised that the city would be partially completed in seven years, the Egyptian minister of housing announced that the full realization of the city—and housing for the projected 7 million people—might take as long as 40 years. The feasibility of the project seems uncertain, given greater Cairo's demographic realities—a population of 18 million set to double by the time the capital is completed.

More important, it is unclear if the SOM-planned city will provide low-cost housing to the majority who need it. Egypt's government has signed a deal with Arabtec, another UAE company, to build 1 million affordable housing units across 13 sites at a total cost of $40 billion. The relationship between these immense projects, if any, has not been clarified.

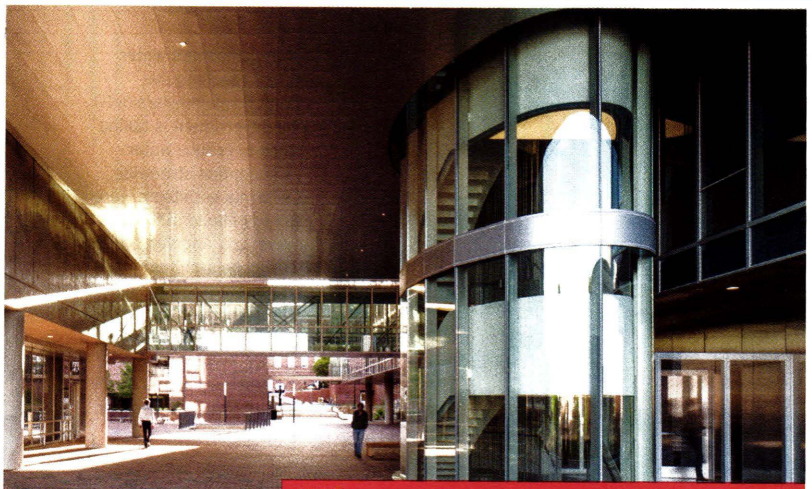
When asked for comment on the project, a spokesperson from SOM wrote in an e-mail, "We are not pursuing interviews at this time, per our leadership's request." ■



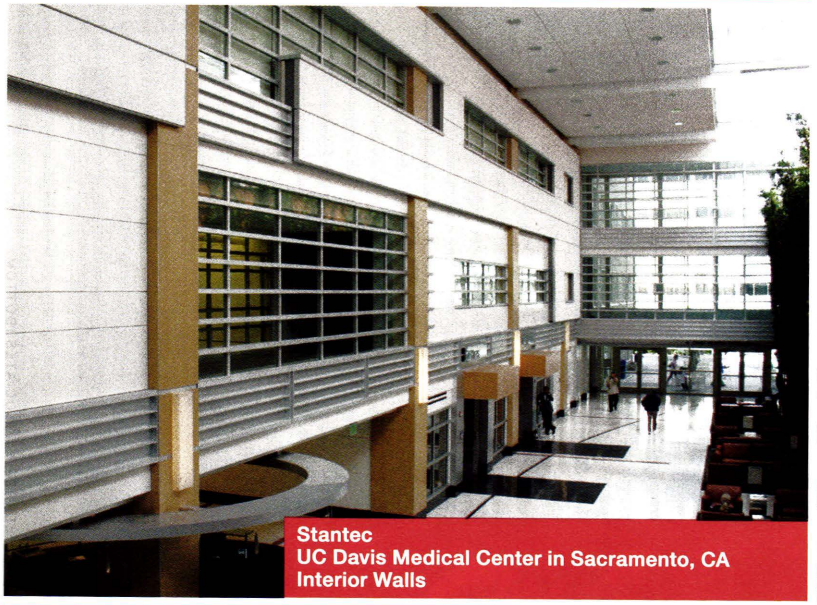
The new capital will be located less than 75 miles away from present-day Cairo on a swath of military-controlled desert. Other Egyptian efforts to build satellite cities, including New Cairo and 6th of October City, have largely failed.

Mohamed Elshahed is the founding editor of Cairobserver.com and a postdoctoral fellow at the Forum Transeregionale Studien in Berlin.

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California Landscape Architects' Strategies Hold Water

BY ANNA FIXSEN





With California's water deficit reaching the worst levels in years (left), the government is taking steps to reduce water consumption statewide. California architects were already ahead of the curve: Los Angeles–based landscape architect Mia Lehrer incorporates native plants and permeable surfaces into her designs. For her Vista Hermosa park (below), nearly every drop of water is absorbed or stored.

DAILY WATER-SAVING Tip #61 on the state of California's website suggests, "Dig up that old shrub and replace it with a low water-use plant." It may seem trivial, considering that the state's water deficit stands at 11 trillion gallons according to NASA, but sound reasoning backs up the suggestion. These days in California, to have a green lawn—traditionally the hallmark of the American dream—is to wear a scarlet letter: a 1,000-square-foot yard guzzles between 35,000 and 75,000 gallons annually says the Association of California Water Agencies. Some people have gone so far as to paint their crisp lawns green.

On April Fools Day, California governor Jerry Brown, standing on a brown swath of grass at the foot of the Sierra Nevadas—usually still deep in snow that time of year—made an announcement that wasn't a joke: for the first time in the state's history, he imposed a 25 percent water reduction on cities across the state (farms were excluded). This means replacing 50 million square feet of lawns with drought-friendly landscaping, and it requires cemeteries, campuses, and golf courses to cut back on irrigation. It will also issue a temporary rebate program for efficient appliances, and calls for updating standards for toilets and faucets.

In the face of this drought and mandate, landscape architects seemingly might be daunted. However, many are amply prepared to deal with the dry spell and have been so for decades.

"For me, it makes my job easier," says Los Angeles–based landscape architect Mia Lehrer, who has been an advocate of sustainable landscape design for years and has led efforts to revitalize the L.A. River. Her Vista Hermosa Natural Park, completed in 2008, introduced natural ecosystems and integrated permeable surfaces and stormwater collection for irrigation. According to Lehrer, nearly every drop of water that falls on the site goes back into the ground or is collected in a 20,000-gallon cistern.

For Lehrer, expectations for landscape design need to be readjusted. "Someone may go to a resort in Barbados and come back excited about palm trees and plants that look like Barbados," she says. Instead, she advocates imitating natural drainage systems with mulch and soil, choosing plants that are regionally appropriate, and making irrigation systems more efficient.

San Francisco–based landscape architect, artist, and designer Walter Hood echoes Lehrer's sentiments: "Lawns are cultural. We have to think about why we need a lawn."

He cites projects where, rather than a hard paved surface, he used decomposed granite and gravel so that water could reach subterranean aquifers. For the de Young Museum in San Francisco, he maintained existing palms and used plants found in the local context, including redwood and ferns, rather than bring in more water-guzzling non-native species.

To these landscape designers, complacency is the biggest offender. Droughts are nothing new in California—Hood points to lengthy droughts in the 1980s—but the natural cycles have been overlooked due to shortsightedness and California's access to water from other areas, including the Colorado River and the Eastern Sierra Nevada. "We need to get people to understand what the natural ebbs and flows are. I don't think you can live in California without thinking about that," says Hood.

Indeed, the state water board announced, less than a week after the governor's water-reduction mandate, that urban Californians reduced water consumption by only 2.8 percent in February—a "dismal conservation rate."

"At some point, humans work best at the edge of disaster, so we need to be taken to the edge," says Hood. "If you can get people to understand the context and consequences, you can actually start to get people to change." ■

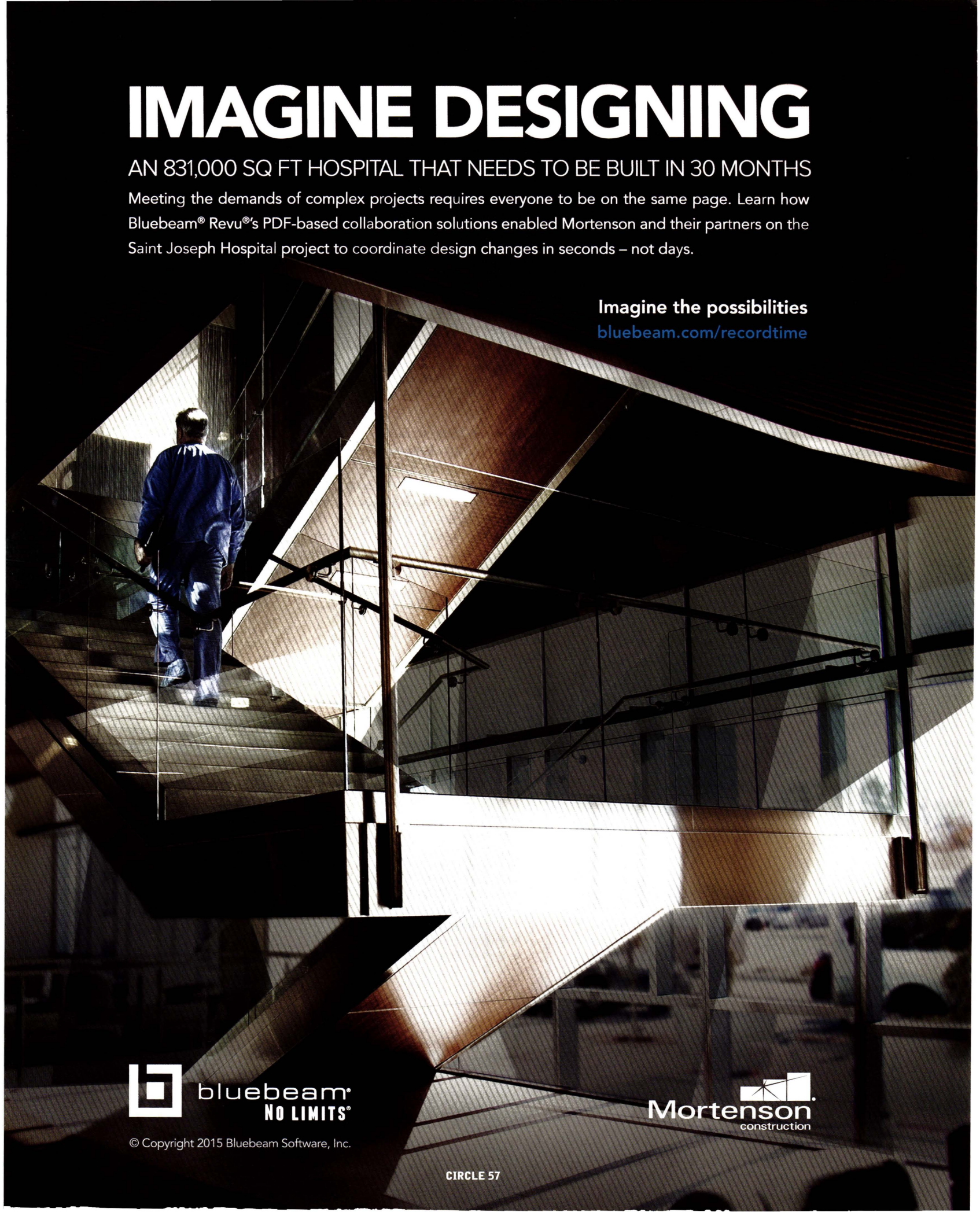
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CIRCLE 57

Gehry's Facebook HQ Opens

BY LYDIA LEE

THE START-UP culture of Silicon Valley, nurtured in a variety of ad-hoc spaces, has spawned a trendy, DIY-style of interior architecture. Facebook's first ground-up office building, which opened its doors at the end of March, attempts to recreate that converted-warehouse ethos on a grand corporate scale. Designed by Frank Gehry, the 430,000-square-foot building has an endearing gawkiness, a mashed-up quality that doesn't read "office." Announcing its recent opening on his personal Facebook page, CEO Mark Zuckerberg said, "The building itself is pretty simple and isn't fancy. That's on purpose. We want our space to feel like a work in progress."

Located on the edge of the San Francisco Bay alongside a major expressway, the building is very visible to commuters. While Facebook has not yet released official images of the prosaically named MPK20 (building No. 20 in the suburban town of Menlo Park), snapshots on social media show its lofty interiors (the company claims it is the world's largest open-plan office) with exposed concrete and plywood elements, art-installation interludes, and multiple glass-walled lobbies. At lunchtime, some of the 2,800 occupants can be seen riding pale-blue company bikes between the old campus and the new building, as well as hiking up the dozen or so exterior staircases to the 9-acre rooftop park.



Facebook CEO Mark Zuckerberg posted this arial view of the company's new, Frank Gehry-designed headquarters on move-in day. The facility's 9-acre rooftop park is visible here.

Granted, MPK20 doesn't have to do much to stand out among Silicon Valley's banal office parks, and it doesn't challenge the low-rise suburban model. But as the first building to be finished by one of the area's tech heavyweights (Apple's new headquarters is currently under construction, and Google has only recently unveiled plans for headquarters designed by Bjarke Ingels and Thomas Heatherwick), it has moved the ball forward in a few significant ways. All the parking is at-grade underneath the building, which immediately densifies the site; the glass curtain walls are clear instead of obscured by black reflective coating; and it meets the public sphere squarely, sharing a major intersection and a combined pedestrian and bike tunnel. This interface is not an easy thing to figure out; guards are on hand to turn non-employees away from a small corner park, and the much-publicized rooftop park is all but invisible to the surrounding community. However, in its next phases of expansion, Facebook has plans for a 5-acre public park and employee housing. With so many resources at their disposal, Facebook and other tech giants have the ability to build company towns complemented by public amenities—hopefully with an MPK20 sense of playfulness. ■

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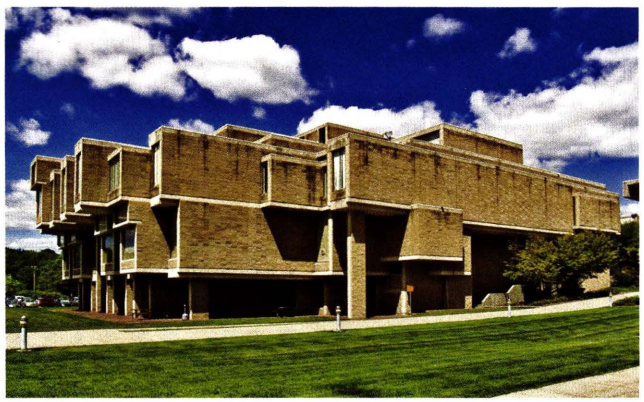
Suit Filed to Save Rudolph Building

BY FRED A. BERNSTEIN

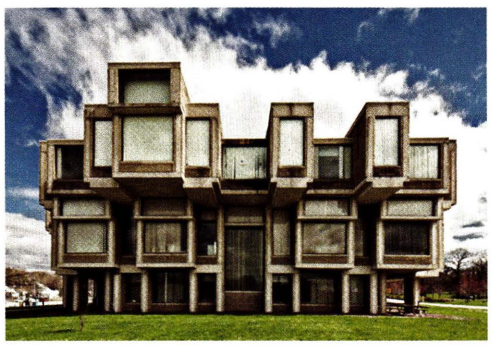
AS PREPARATIONS to demolish part of Paul Rudolph's Orange County Government Center continued, lawyer Michael Sussman filed suit against Orange County, New York, and two officials—county executive Steven Neuhaus and county legislator Leigh Benton—to stop the county from proceeding with the teardown plan and significantly altering the rest, as proposed by the engineering and architecture firm Clark Patterson Lee (CPL). Sussman described architect Gene Kaufman's competing plan—to convert the building into artist studios and build a new government center—as "the objectively far superior option."

In his complaint, filed in State Supreme Court on behalf of three Orange County residents, Sussman argued that the county committed waste by choosing the CPL proposal, which he said will cost millions of dollars more than would Kaufman's solution. "And if demonstration of such significant public waste were not enough," he wrote in an accompanying memorandum, "the record demonstrates that this waste is the result of the collusive and corrupt practices of those involved." Specifically, he noted that Benton, the head of the legislature's physical services committee, accepted a job with CPL while helping to determine the fate of the building. (Benton, a jeweler by trade, resigned the position after his connection to CPL was disclosed. In 2014, he was fined and censured.) As further evidence of collusion, Sussman noted that, during Neuhaus's campaign for county executive in 2013, "Neuhaus received at least $86,000 in donations, as well as other support, from parties interested in the selection of the most expensive option."

In his memo, Sussman demanded that the county be enjoined from altering the Rudolph building until the lawsuit is adjudicated. Without the injunction, "Plaintiffs will suffer imminent irreparable harm," he wrote, "because the intended demolition cannot be undone and will forever destroy the landmark Government Center." ■



Paul Rudolph's Orange County Government Center, the embattled hivelike structure in Goshen, New York.



PHOTOGRAPHY: VIA FLICKR, BRENDAN PETTERSEN (TOP); VIA FLICKR, GABBYONEAL (BOTTOM)



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CIRCLE 81

[NEWSMAKER]

David Burney

BY FRED A. BERNSTEIN

IN NEW YORK, David Burney, FAIA, is well known as the man who brought serious architecture to the public sphere, as director of the Department of Design and Construction (DDC) under Mayor Michael Bloomberg. Now Burney is about to become even better known—as the interim director of the New York Chapter of the American Institute of Architects, a job he assumed following the resignation in March of longtime director Rick Bell, FAIA. At the same time, he is focused on creating a new master's program, in Urban Placemaking and Management, at the Pratt Institute in Brooklyn, New York, where he is an associate professor. And he is the chairman of the board of a nonprofit, the Center for Active Design, focused on improving health through architecture. (Burney, who rides his bike everywhere, and looks younger than his 67 years, could be the poster child.)



Burney, who was born in Liverpool, UK, studied architecture in Edinburgh and London before coming to New York in 1982 to work with Davis, Brody & Associates (now Davis Brody Bond). From 1990 to 2003 he was the director of design and capital improvement for the New York City Housing Authority. In 2004 he moved to the DDC, which oversees capital projects for 22 client agencies.

How did you come to be the interim director of the New York AIA chapter while also teaching full-time at Pratt?

I had been on the board for several years, so I knew the people there quite well. They asked if I would step in, and I find it hard to say no.

Is the AIA chapter important?

With about 5,500 members—the most in its history—it is by far the largest and most active chapter in the country. One of its roles is advocacy, including advocacy of the Good Samaritan law, which was proposed after Hurricane Sandy, so that architects who take on pro bono projects don't have to worry about liability.

How is the chapter's Center for Architecture doing?

It's bursting at the seams. I think sometime in the next few years, it may have to look for a bigger space.

Might you settle in at the AIA long-term?

I'm only there until they find a permanent director.

Could you have stayed on at the DDC under the new mayor?

Yes, perhaps, but it was time to give someone else a chance.

In some ways, I feel as if you still are the director of the DDC, because so many of the projects you conceived are just now coming to fruition. I'm thinking particularly of the 911 call center, by Skidmore, Owings & Merrill, rising on the Hutchinson River Parkway in the Bronx.

Yeah, that's a very cool building. It's blast-resistant, with 26-inch-thick concrete walls, but it doesn't look like a bunker.

And then there's Steven Holl's library in Long Island City, which is about to break ground.

The library program may be what I'm most proud of. Between renovations, expansions, and new construction, we did over 200 libraries. But library is a bit of a misnomer. They're really community centers.

Do you have any regrets about your time at DDC?

I would like to have been able to change some city practices on a more permanent basis. Because city law requires sealed bids, design can take a backseat to financial considerations.

Tell me about the new placemaking program at Pratt. I hear the term so much, I'm wondering if it has become a fad.

I don't think it's a fad. There's been a paradigm shift in the way we think about cities.

How so?

When I was in school, we talked about "S.L.O.A.P"—space left over after planning. You designed the buildings, and what remained was public space. Now it starts with people, with community engagement about how the spaces will be used.

Why an academic program?

When I was at DDC and we were doing all those plazas, my project managers were architects and engineers. They had no real training in how to create successful places. We decided at Pratt that that's something we can really teach, and we developed a curriculum with adjunct professor Stuart Pertz. No one else is teaching it. Placemaking is a movement, and we're the academic side of that movement.

I assume you'll reach out into the city?

Absolutely. If you look at low-income communities, communities of color, they're not only deprived of good housing and good transportation, they're also deprived of good urban design. Placemakers can change that. ■

noted

LEED To Recognize Living Building Challenge

The U.S. Green Building Council announced it will streamline LEED requirements by also recognizing those from the Living Building Challenge. Projects that achieve energy and water requirements in the Challenge will now be considered LEED equivalent.

New Master Plan for D.C. Union Station

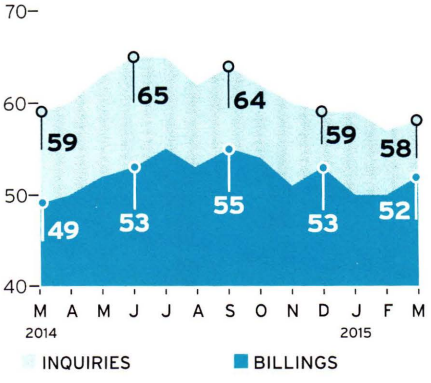
Beyer Blinder Belle and Grimshaw have been selected to create a new master plan for Washington, D.C.'s Union Station. The project—to include a 3 million-square-foot mixed-use development—aims to enhance travelers' experience and integrate the station into the surrounding neighborhood.

Tadao Ando to Build First NYC Building

Tadao Ando is building a residential building in Manhattan's NoLIta neighborhood, his first freestanding structure in the city. The seven-story building, called 152 Elizabeth Street, is scheduled to be completed in 2016 and is a development of New York–based Sumaida + Khurana.

Farshid Moussavi Selected as Royal Academician

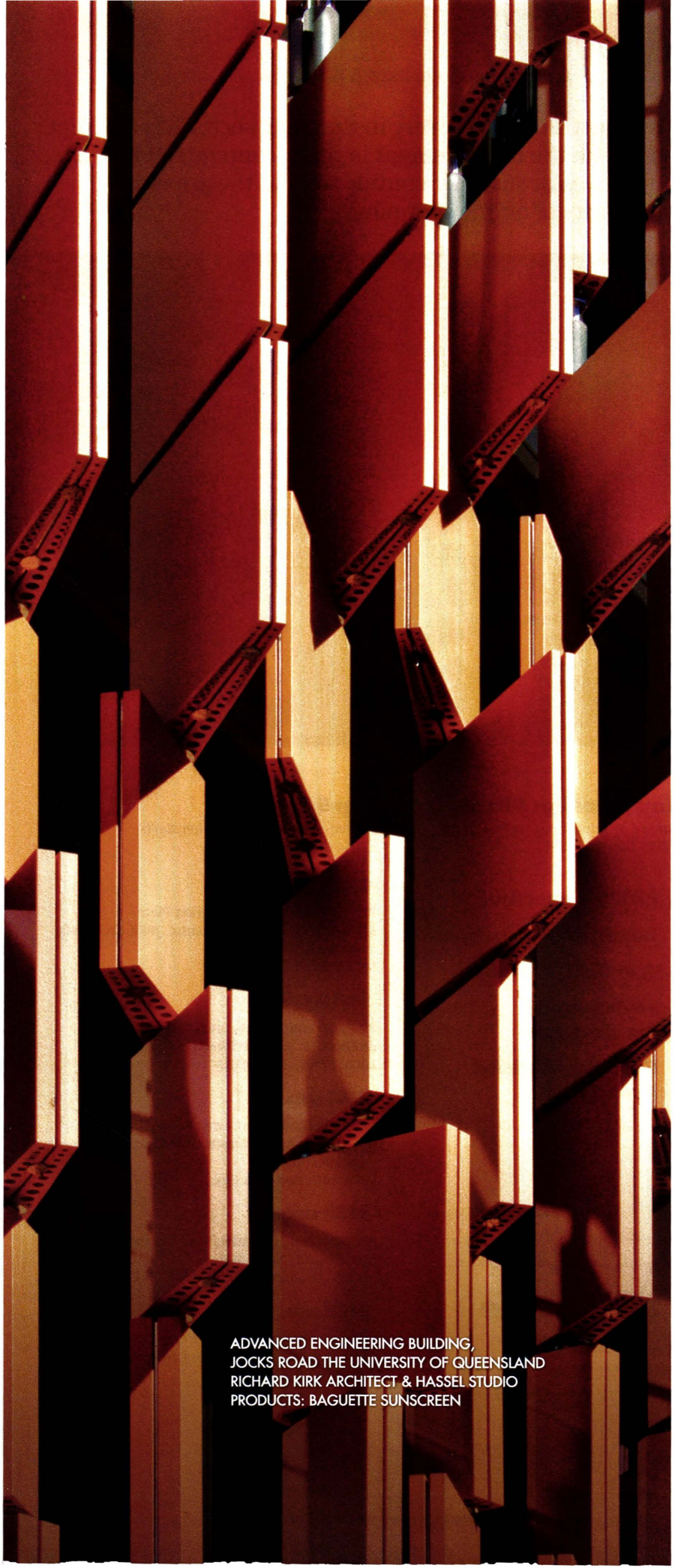
The Royal Academy of Arts in London has elected UK-based architect Farshid Moussavi as a Royal Academician for architecture. RAs, who must be artists or architects, comprise the steering committee of the Royal Academy, teach at its schools, and exhibit work.



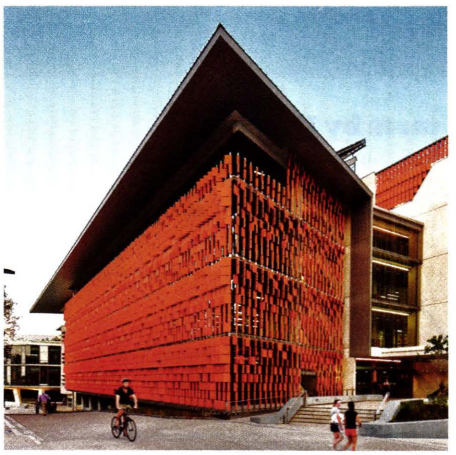
ABI Improves in March

The Architectural Billings Index (ABI) increased slightly in March with a score of 51.7 points, up 1.3 points from February, continuing a positive trend. Billings in the Northeast, however, were set back due to severe weather, according to the AIA's economist. Meanwhile, new project inquiries for March increased to 58.2 from 56.6.

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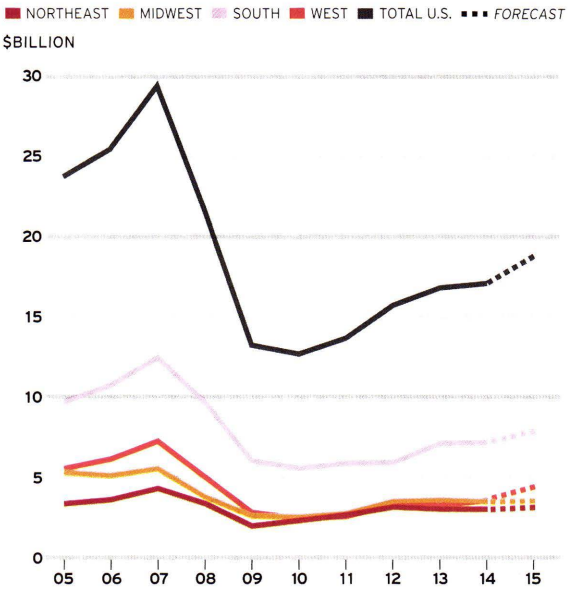
CIRCLE 111

perspectivestats
Data from Dodge Data & Analytics

MARKET FOCUS
RETAIL

The construction recovery in the retail sector has not kept pace with the improvement in other commercial markets, due to weak consumer confidence and the growing popularity of online shopping.

Retail Starts by Region
In addition to U.S. total and 2015 forecast figures



Top Metro-Area Markets
Ranked by total retail starts 1/2014 through 2/2015

	REGION	$MILLIONS
1	NEW YORK CITY	1,462
2	CHICAGO	735
3	DALLAS	590
4	HOUSTON	546
5	LOS ANGELES	526


Macy's Herald Square, New York City, various design teams (page 114).

The Dodge Index for Retail Construction 2/2014–2/2015



The index is based on seasonally adjusted data for U.S. retail construction starts. The average dollar value of projects in 2006 serves as the index baseline.

Top 5 Design Firms
Ranked by retail-construction starts 1/2011 through 2/2015

1. BRR Architecture
2. Harris and Associates
3. SGA Design Group
4. MulvannyG2 Architecture
5. Harrison French & Associates

Top 5 Projects
Ranked by retail-construction starts 1/2014 through 2/2015

$216 MILLION
PROJECT: International Market Place
ARCHITECTS: WCIT Architecture, JPRA Architects, 505 Design
LOCATION: Honolulu

$200 MILLION
PROJECT: South Street Seaport Pier 17
ARCHITECT: SHoP Architects
LOCATION: New York City

$157 MILLION
PROJECT: Nordstrom Tower, Retail Floors
ARCHITECT: Adrian Smith + Gordon Gill Architecture
LOCATION: New York City

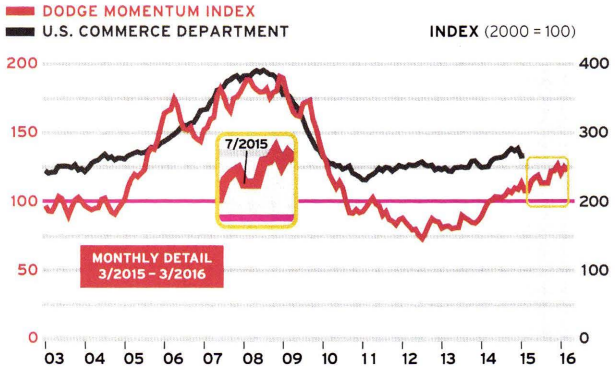
$150 MILLION
PROJECT: King of Prussia Mall Expansion
ARCHITECTS: RTKL, MAI
LOCATION: King of Prussia, PA

$138 MILLION
PROJECT: Mountain Grove at Citrus Plaza
DESIGN-BUILDER: Commerce Construction
LOCATION: Redlands, CA

MOMENTUM INDEX DIPS

In March, the Dodge Momentum Index dipped 2.1% to 122.3. But, despite the drop, the index maintained a 122.5 average for the first quarter—a 12% gain over the same period last year.

The Dodge Momentum Index is a leading indicator of construction spending. The information is derived from first-issued planning reports in the Dodge Data & Analytics Reports database. The data lead the U.S. Commerce Department's nonresidential spending by a full year. In the graph to the right, the index has been shifted forward 12 months to reflect its relationship with the Commerce data.



Dodge Data & Analytics tracks projects from predesign through construction to capture hard construction costs, square footage, and other key statistical information. Mixed-use projects are ranked on the basis of the construction value of their retail portions only.

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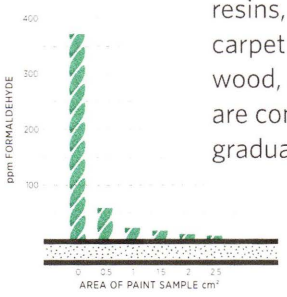
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CIRCLE 109

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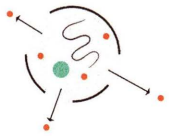
Why these problems are such a problem.
Used in producing plastics, synthetic resins, upholstery, carpet and pressed wood, aldehydes are compounds that gradually "off-gas", resulting in emissions. Mold and mildew can irritate skin, eyes and respiratory tracts and cause staining, rotting, and bacterial odors. And while odors from pets, cooking, smoke and other sources may not pose health problems, they can make indoor spaces unpleasant.



Aldehydes are emitted from carpet and other products over time.*

The science behind the technology.
It starts with odor eliminating technology that deconstructs carbon molecules, neutralizing and dissipating odors. Then, new formaldehyde reducing technology* helps to transform airborne aldehydes into water molecules and harmless inert gas, reducing these VOCs from potential sources like insulation, carpet, furniture and fabrics. And finally, antimicrobial agents inhibit the growth of mold and mildew on the paint film and related bacterial odors, addressing these issues before they can become a problem.

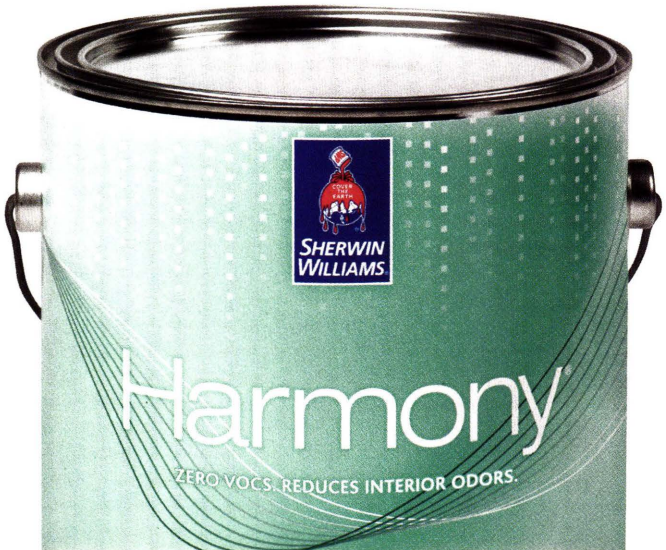
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*Formaldehyde Reducing Technology is currently available in flat and eg-shel sheens. The length of time Harmony actively reduces odors and formaldehyde depends on the concentration, the frequency of exposure and the amount of painted surface area.

*Based on methods:
ISO 17226 Determination of formaldehyde content in leather by High Performance Liquid Chromatography
ISO 16000-3 Determination of formaldehyde and other carbonyl compounds in indoor air and test chamber air

CIRCLE 61

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CIRCLE 52

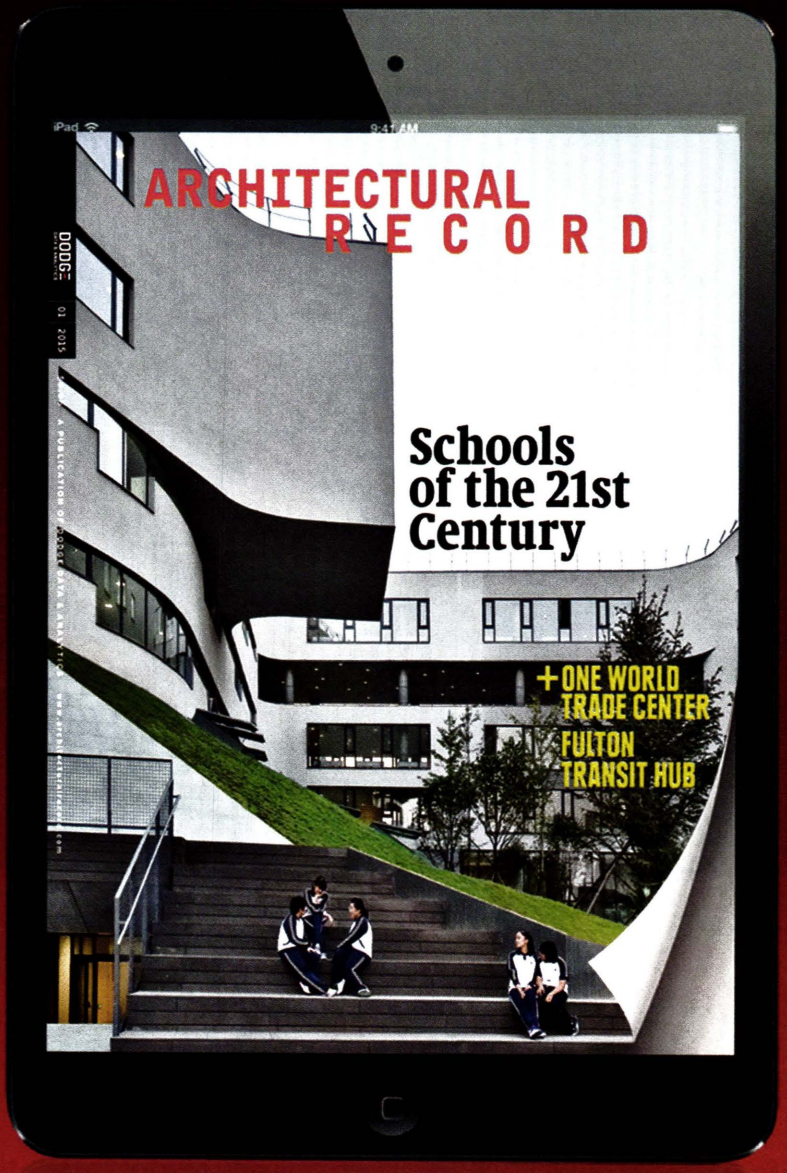
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CIRCLE 87



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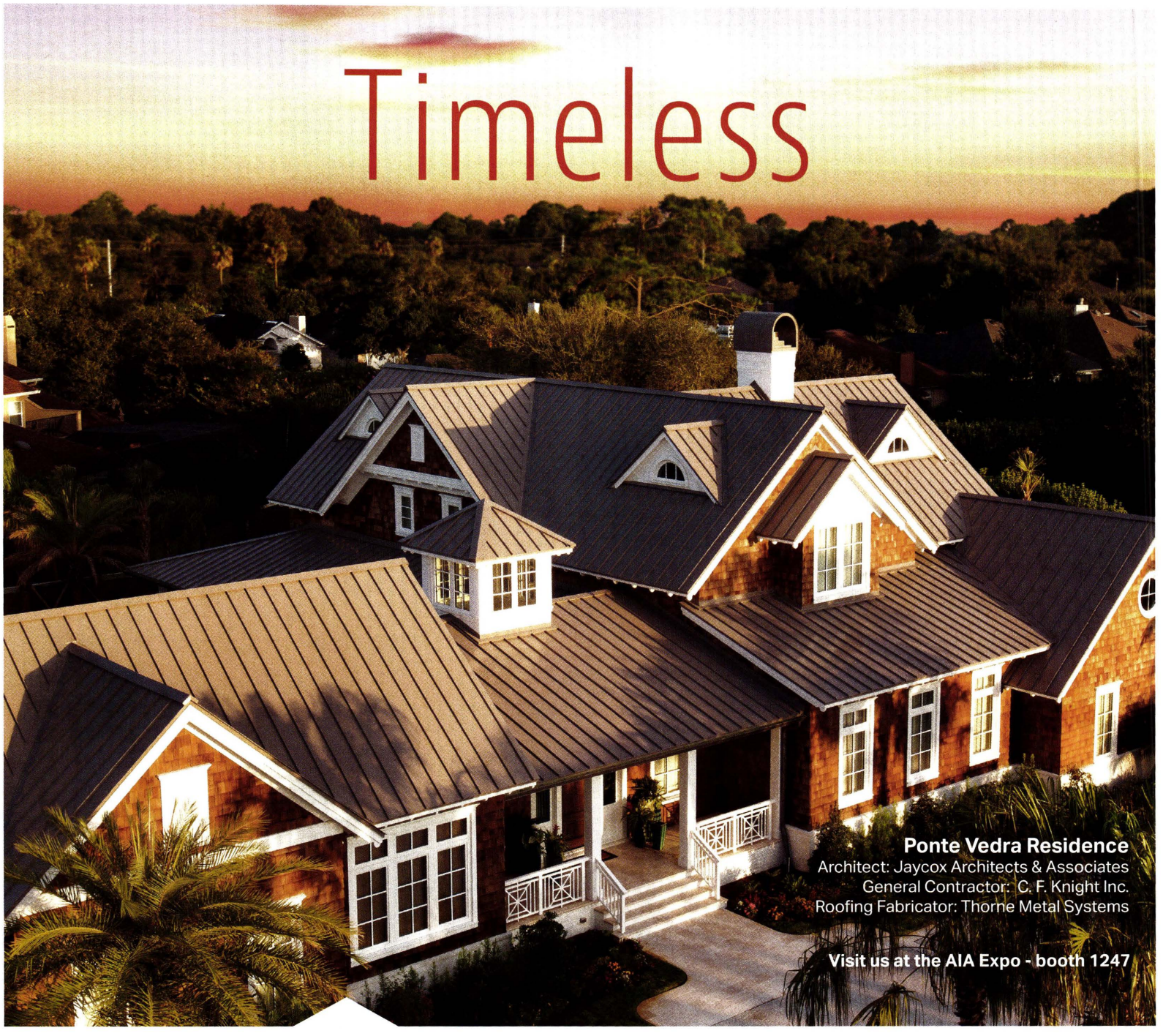
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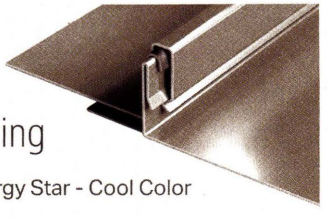


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CIRCLE 112

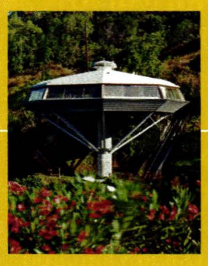
ARCHITECTURAL RECORD

Guess the Architect Contest

ENTER NOW! A monthly contest from the editors of RECORD asks you to guess the architect for a building of historical importance.



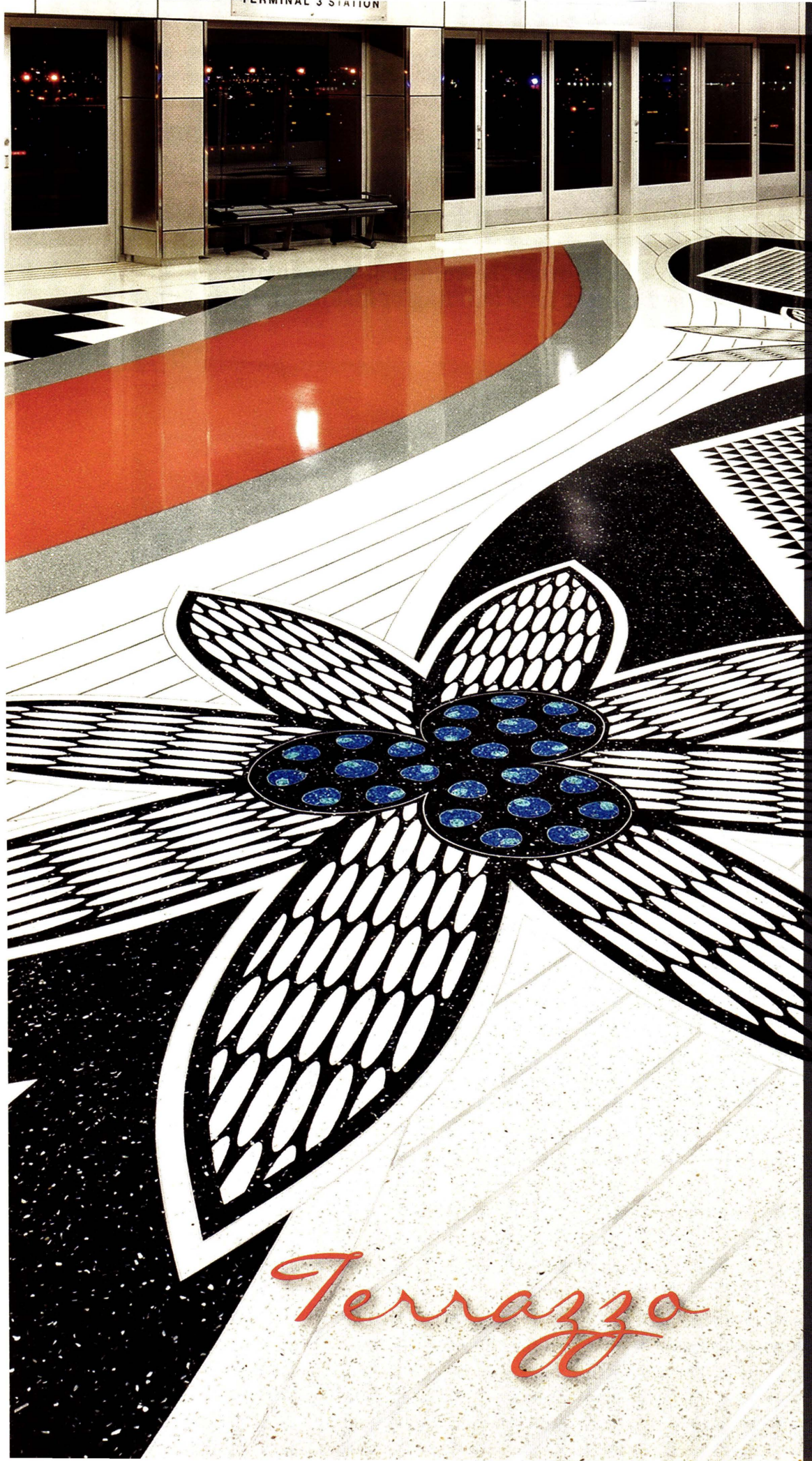
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The answer to the April issue's Guess the Architect is **JOHN LAUTNER**, who designed the octagonal Chemosphere House (1961) in Los Angeles for an aerospace engineer. It was featured in Brian de Palma's *Body Double*, among other films. For more details, including the winner, go to guessthearchitect.com.

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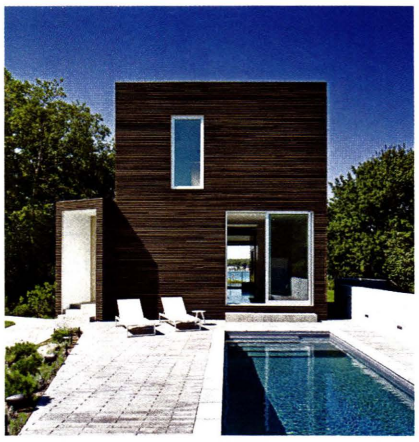
CIRCLE 17

Terrazzo

perspective **house of the month**

NEW YORK-BASED BERNHEIMER ARCHITECTURE CARVES OUT DOUBLE-HEIGHT SKYLIT SPACES TO CREATE A SUN-DRENCHED VACATION HOUSE IN COASTAL RHODE ISLAND **BY JOSEPHINE MINUTILLO**







The dark exterior of the 2,200-square-foot house is clad in custom-milled slats of cypress. Each 1 1/2"-by-3" slat has been charred, brushed, and oiled (far left). The east facade serves as the entry and faces the pool and separate garage (top, left). An elevated deck for outdoor dining is tucked below the main bedroom and includes an open-air skylight (left). Large cutouts in the ceiling flood the ground-floor public space with natural light as it overlooks Quonochontaug Pond (below).



IN PLAN and elevation, the house in Charlestown, Rhode Island, looks fairly straightforward. But step inside, and the ground floor is flooded with daylight—the result of double-height skylit spaces over the kitchen, living room, study, and entry foyer. "We were very interested in how we could sculpt light," says Andrew Bernheimer, whose firm, Bernheimer Architecture, had previously renovated a Brooklyn, New York, townhouse for the family of five, who vacation in the small beach town year-round.

Large chunks of the ground-floor ceiling disappear as Bernheimer carved out light-filled volumes. The biggest, at the house's center, consists of two diverging pyramidal forms that culminate in standard fixed-roof skylights. Though modest in size, the building's mostly wood structure includes several steel beams to span the large cutouts.

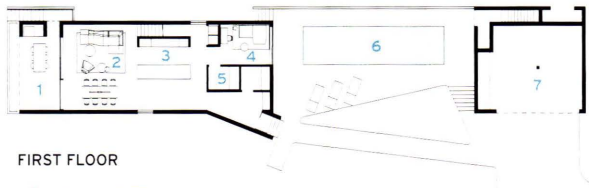
To comply with coastal regulations, Bernheimer elevated the house on concrete piles 2 feet above Base Flood Elevation, giving it views of a nearby pond. Charred cypress slats compose the dark facade. Its first level is punctured by large sliding glass doors that open up to a pool area in front and a covered deck for grilling and dining al fresco in the back, where another double-height volume overhead opens to the sky.

In order to experience the shifting natural light patterns throughout the day that those large skylit volumes provide in the public spaces, the owners sacrificed private space on the second level, where three compact bedrooms surround a shared bathroom. But the family would not have it any other way, admitting to their architect that their Brooklyn house is too dark by comparison. Then again, anything would be. ■



SECOND FLOOR





FIRST FLOOR

0 15 FT.
5 M.

1 DECK
2 LIVING ROOM
3 KITCHEN
4 STUDY
5 BATHROOM
6 POOL
7 GARAGE
8 BEDROOM
9 LOFT

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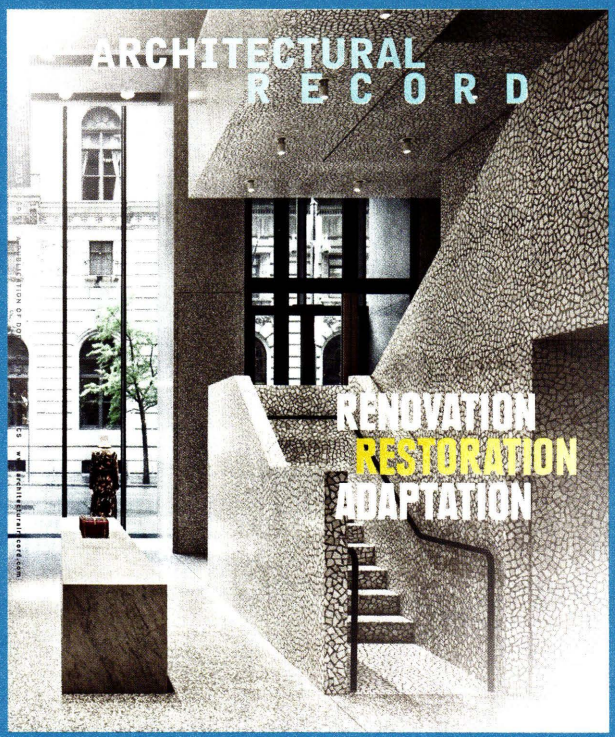
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61

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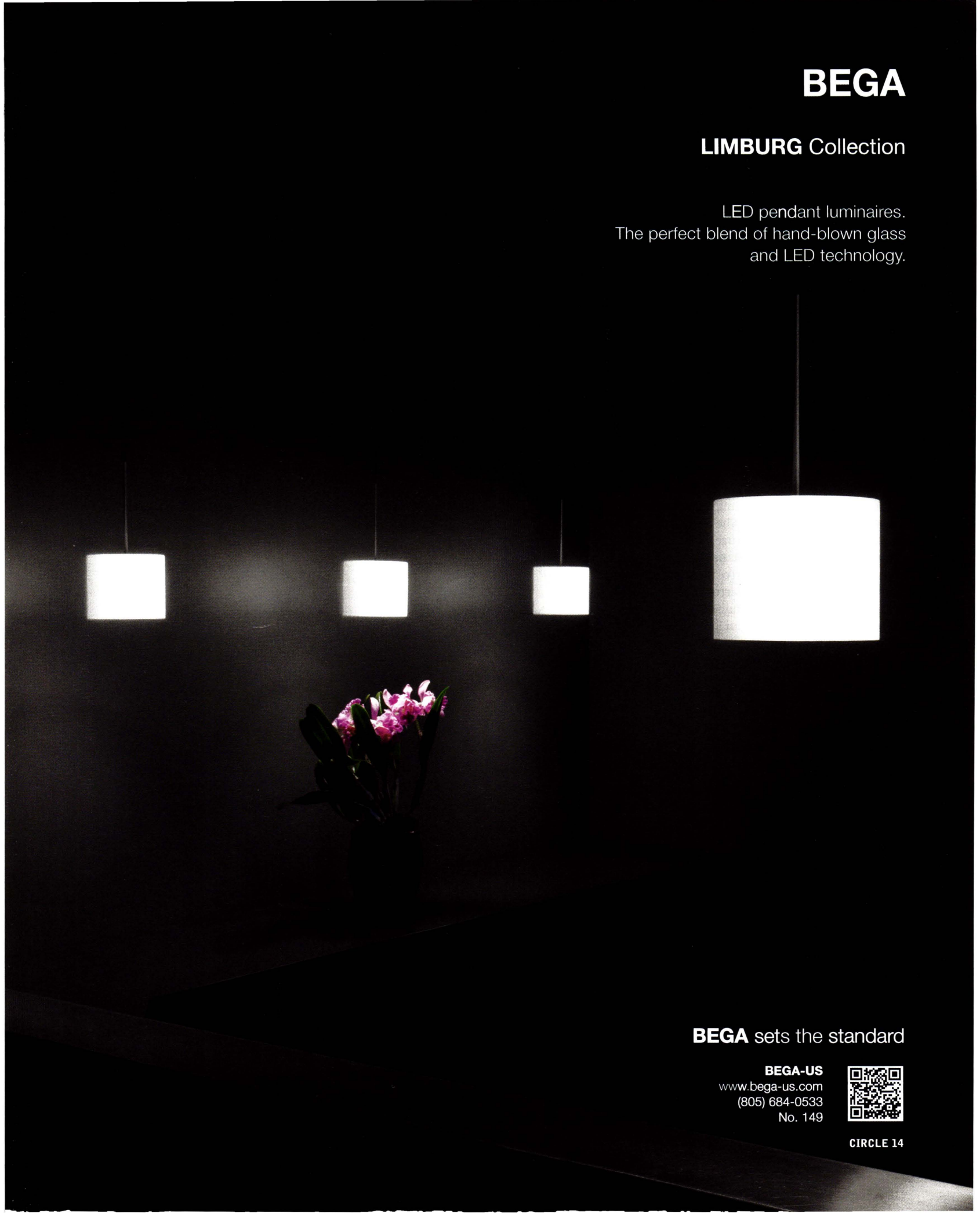
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CIRCLE 14

Visual Cues

The Spanish firm Langarita-Navarro designs communal spaces that draw from art and politics.

BY DAVID COHN

PARTNERS IN both professional practice and private life, María Langarita and Victor Navarro first met in the booming pre-crisis Madrid of the early 2000s, when anything seemed possible for a pair of young architects. Despite the tough economic times that followed, they have nurtured a spirit of loose, inventive play in a series of small commissions, temporary installations, and renovations. These range from the Red Bull Music Academy, a village of rehearsal spaces encamped in the hall of a former slaughterhouse in Madrid, to a vacation house for the families of three brothers that spills down a terraced hillside in Alicante.

When they first met, the two found a common interest in art. "Artists are the first to give ideas potent images," Langarita says. "Architecture is less direct, more processed." Langarita came from a small town in Aragón. She attended Pamplona's school of architecture, then began working in the office of Luis Mansilla and Emilio Tuñón in Madrid. Navarro, the son of the architect and painter Juan Navarro Baldeweg, was finishing his studies at Madrid's ETSAM architecture school. They began looking at contemporary art to find ideas and started their eponymous firm, Langarita-Navarro, in 2007.

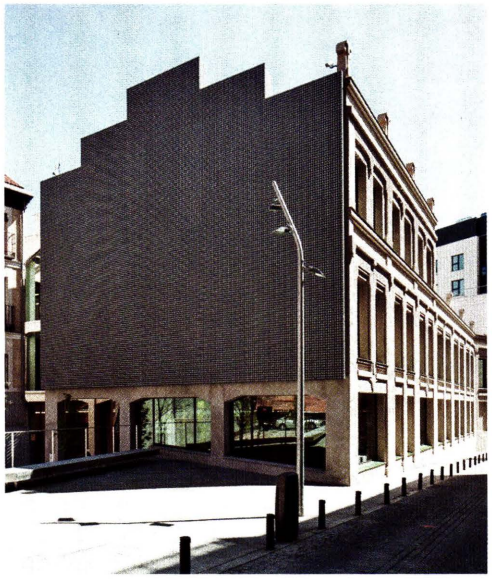
For Red Bull, the abstract and figurative paintings of Philip Guston helped inspire the whimsical gathering of house-like rehearsal rooms along a raised walkway. The couple collected other visual references for the project, including pictures of sleds, as they studied different ways to lift the temporary structures off the earthen floor.

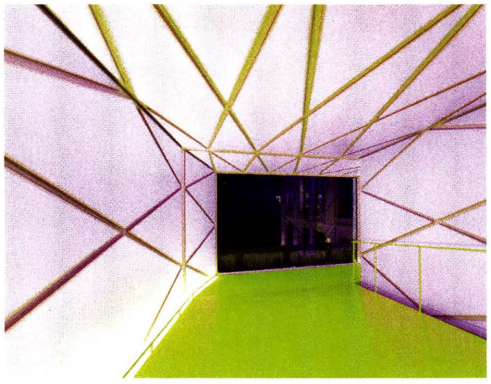
Such visual cues serve as instruments in Langarita and Navarro's ongoing "conversation" design process. The two also see a social role for architecture. In the Baladrar house in Alicante, for example, they clustered indoor and outdoor spaces around the main living area so family members can be connected while in different parts of the house.

Similarly, other projects create flexible spaces for working environments, including the Medialab-Prado–a space for tech start-ups in a renovated Madrid sawmill–and their latest and largest project, an open-air meeting hall in Arequipa, Peru. A lightweight canopy covers an area of 50,000 square feet in order to shade users and support equipment for different events. While Red Bull and the Medialab occupy and recondition existing building shells for new uses, in Peru the architects provide the shell as well—though, with its different uses, prefabricated structure, and fabric covering, the canopy remains close in spirit to earlier projects.

The openness to different uses, the focus on social organization, and the relative impermanence of some projects can be considered an extension of the culture of occupied public spaces that has sprung up with the financial crisis in Spain, social protests in which many young architects have participated. Langarita and Navarro's work shares the freshness of these collective experiments, taking their lessons to the next level of deliberated design. ■







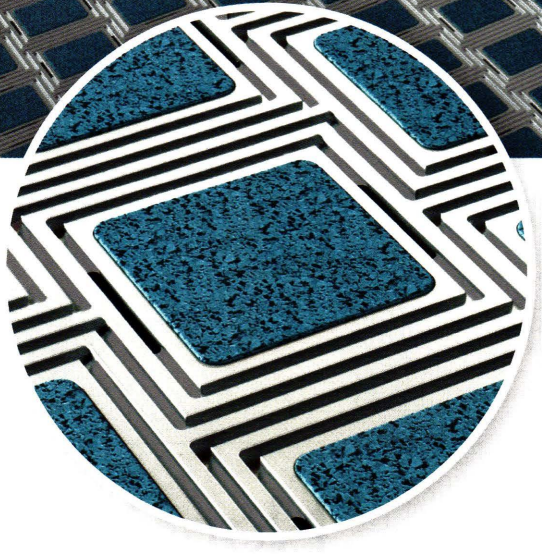


Since starting their firm, María Langarita and Victor Navarro (top, right) have designed with a communal focus. The Medialab-Prado houses start-ups in a former sawmill (top, left and middle, right), and their Red Bull Music Academy consists of studios in an old slaughterhouse (above). The Casa Baladrar in Alicante is for the families of three brothers (below).



IMAGES: © MARÍA CARMONA (TOP, LEFT); LUIS DÍAZ DÍAZ (4)

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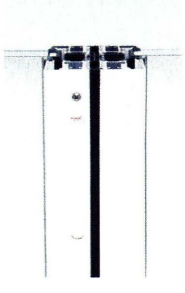
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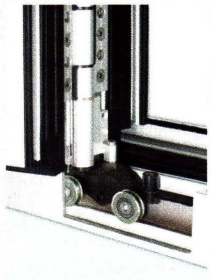
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A Love-Hate Relationship

Results of the ARCHITECTURAL RECORD/Van Alen Institute Design Competition Survey are in.

BY DAVID SOKOL

ARCHITECTS STARTING their practices often see open design competitions as a stepping-stone to the next stage of their careers. A mechanism for advancement particularly abroad, this method of selection is less customary in the United States, owing to a variety of factors. Regardless of country, however, aspects of competitions can leave architects either frustrated or energized—or both.

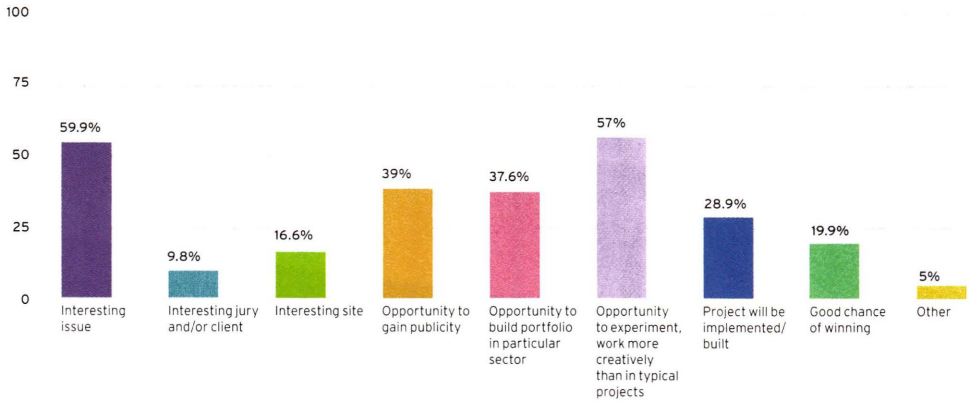
As an organizer of competitions dedicated to improving the public realm, New York's Van Alen Institute (VAI) has collected many anecdotes about the opportunities and abuses of this process. David van der Leer, executive director of VAI, says, "We hear from designers all the time that open competitions spread the perception that they will work for free."

While that feedback has helped VAI with its own competitions, the nonprofit decided it could affect the marketplace of competitions by documenting opinions about advantages and pitfalls systematically. With RECORD as media sponsor, VAI recently created and administered a survey on the subject that elicited 1,414 responses internationally—approximately 79 percent from architects. It published the results of the ARCHITECTURAL RECORD/Van Alen Institute Design Competition Survey in mid-April and presented them as part of a Design Competition Conference at Harvard's Graduate School of Design later in the month.

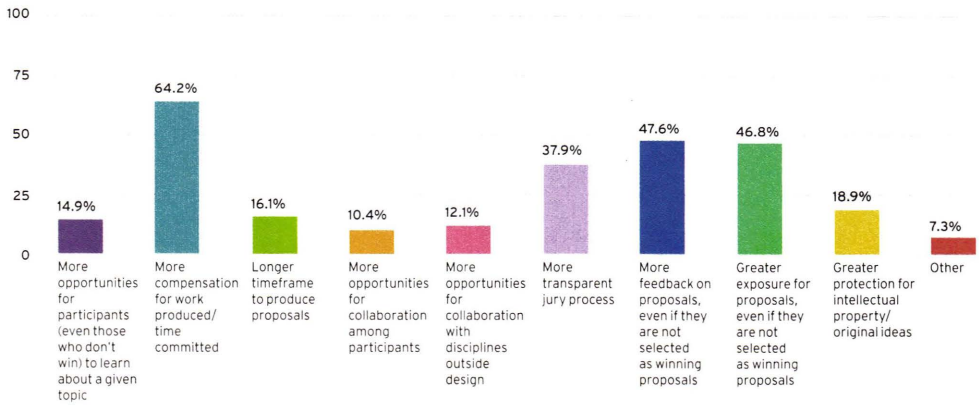
Responses to VAI's survey—a combination of multiple-choice and open-ended questions—indicated mixed feelings. Two of the most popular reasons for entering competitions were the opportunity for design experimentation (57 percent) and a particular interest in the competition subject (55 percent). Publicity garnered as a winner or runner-up was the third reason cited, by 39 percent of those surveyed. VAI competitions director Jerome Chou says the findings indicating widespread appreciation for competition-related research and creativity were unexpected. "It was also surprising that so many designers said they want to collaborate with artists [47 percent]," he says, "perhaps a reflection of how designers see themselves."

Nevertheless, the survey corroborates a common complaint that competitions provide insufficient compensation (79 percent of respondents). Also, 67 percent of respondents said that competitions do not directly yield new business. More than half noted that they draw no income as a result of competitions.

What are the main reasons you/your firm enter/s design competitions? (Respondents could select up to three.)



Which of the following would make design competitions more appealing to you/your firm? (Respondents could select up to three.)



Whether survey participants view design competitions as a necessary evil or a welcome platform for artistic expression, they did have clear suggestions for improving the process. Providing adequate compensation is at the top of their list. Yet almost half also rallied behind measures that cannot be directly measured in dollars, such as receiving more feedback from jurors on both winning and losing proposals. Respondents championed greater exposure for their efforts as well, highlighting the value of competitions in drawing attention to their talents.

In a similar vein, survey takers reported that they rarely work with colleagues or non–design professionals, or with public stakeholders, on competition submissions. VAI is trying to rectify this absence of collaboration in its own competitions and is testing interdisciplinary involvement. It is also hoping to figure out ways to get the public more involved in the submission process too.

Inspired by the survey analysis, VAI also has incorporated public engagement, disclosure of jury comments, and exposure for all competition entries in a document that itemizes 10 reforms for all design competitions. It has produced this list alongside the survey results.

Besides presenting at the Harvard conference and applying such propositions to its own competition processes, VAI will share the survey results and lobby for reforms in the design world, says van der Leer. "It's not as if we're calling for impossible changes," he concludes. "Organizers, clients, and designers can and should act on our propositions." ■

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View the survey at architecturalrecord.com.



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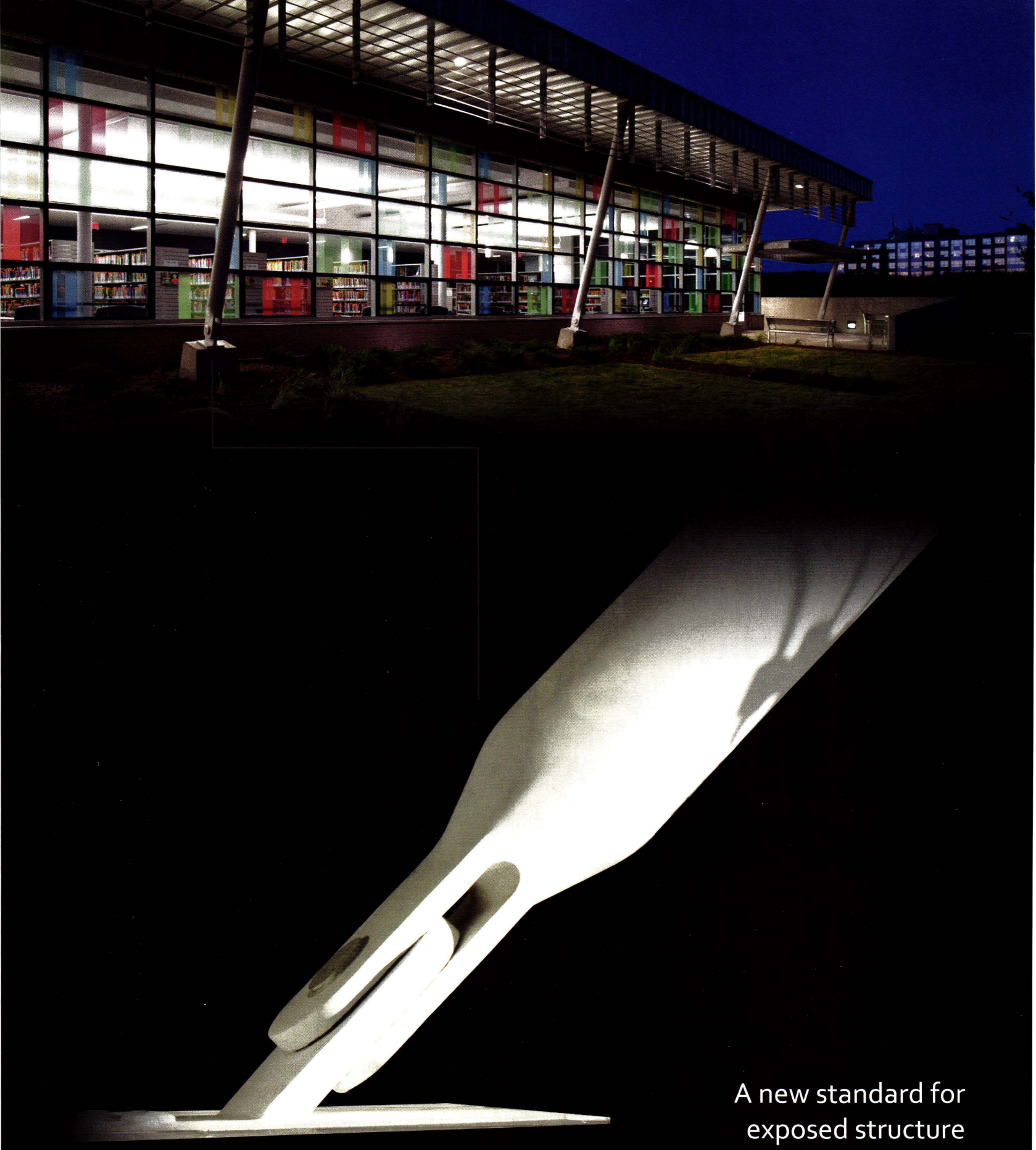
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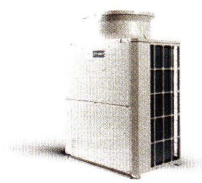
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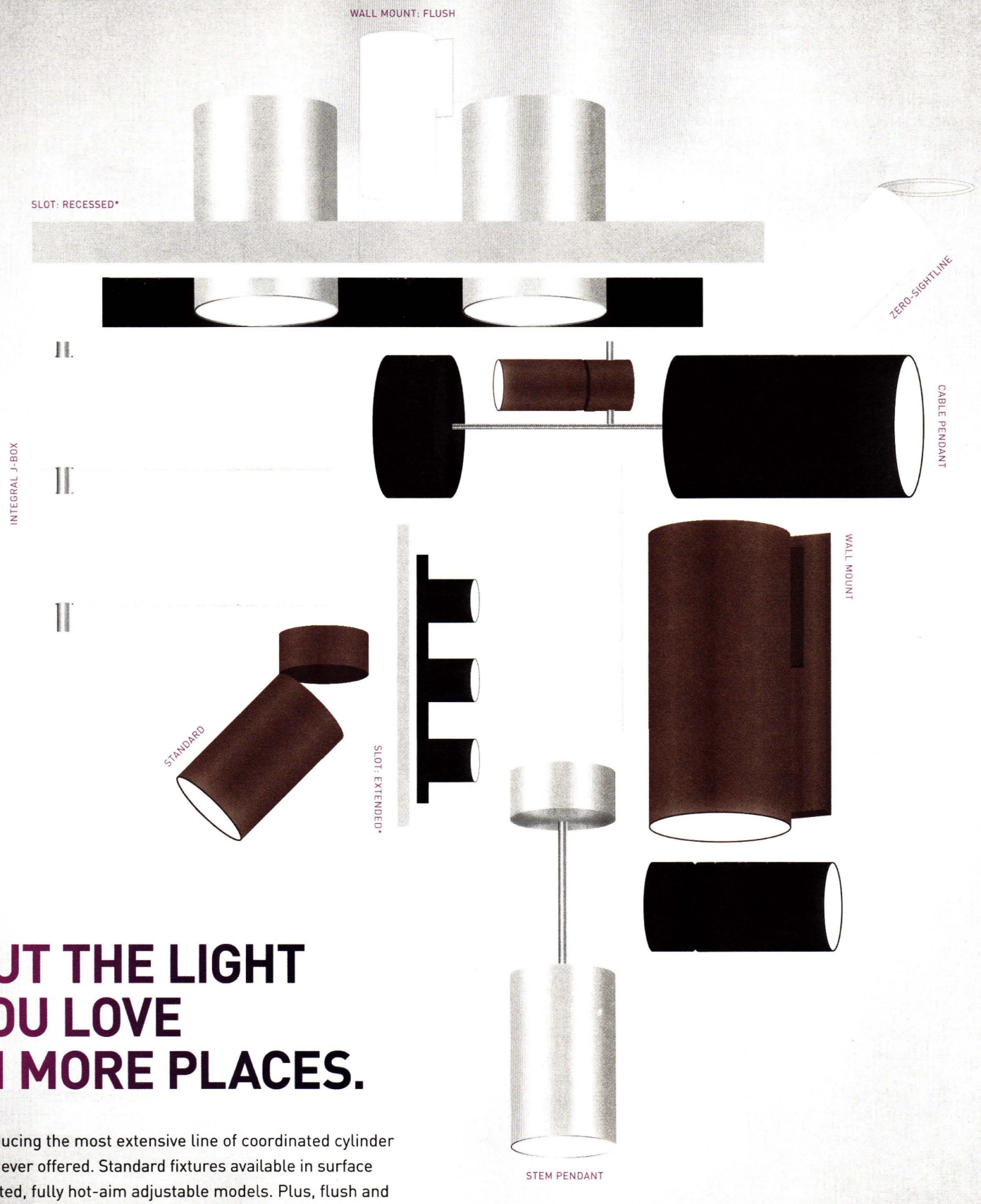


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Whose Continent Is It Anyway? Eurocentrism Is Hard to Break.

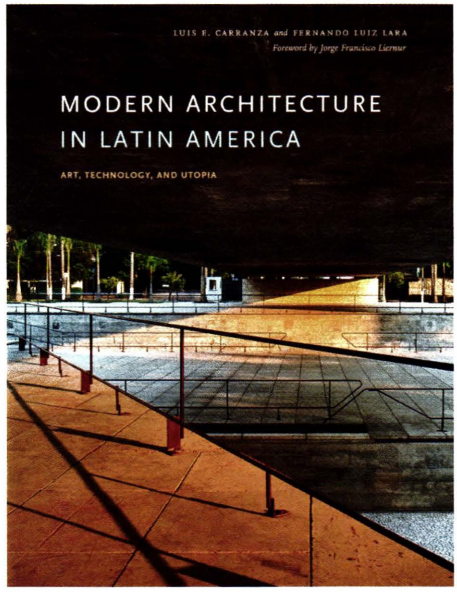
Modern Architecture in Latin America: Art, Technology, and Utopia, *by Luis E. Carranza and Fernando Luiz Lara with a foreword by Jorge Francisco Liernur. University of Texas Press, January 2015, 424 pages, $81 (hardcover) $45 (paperback).*

Reviewed by Susana Torre

EXCEPT FOR a handful of anthologies and books focusing on specific architects or events, Latin America has received little attention in English-language histories of architecture. The Museum of Modern Art, though, mounted three exhibitions (and published accompanying books) on the region in the 20th century—*Brazil Builds* in 1943, *Latin American Architecture Since 1945* in 1955, and *The Architecture of Luis Barragán* in 1976—and is now showing *Latin America in Construction: Architecture 1955–1980* through July 19th.

Luis E. Carranza and Fernando Luiz Lara try to fill the publishing gap with their new book, *Modern Architecture in Latin America: Art, Technology, and Utopia*, the first book in English to deal with the entire 20th century. This is a monumental task, for which the authors have relied chiefly on the existing historiography to identify key buildings and architects. So, in spite of the authors' avowed "commitment to write . . . from a Latin American perspective," this dependence leads them to reproduce that historiography's Eurocentric bias, which is currently undergoing critical review by architectural historians in Latin America and elsewhere. That bias shows up in the book's index, where entries for Le Corbusier exceed those for Oscar Niemeyer, the most celebrated architect of Latin America. The book gives the impression that Le Corbusier and other European and American figures were the determining influence on Latin America's most significant designers and buildings, without acknowledging that the reverse also occurred. For example, Le Corbusier's 1956 design for the Maison de la Culture in Firminy, France, reflects the formal ideas of Affonso Reidy's 1953 design of the Museum of Modern Art in Rio de Janeiro.

Modernization of the built environment in Latin America began late in the 19th century, decades after the wars of independence from Spain (1810–1821) and Brazil's more peaceful separation from Portugal in 1822. During their 300 years of domination, the two Iberian powers imposed a common religion, related languages, uniform urban plans, and European building styles. Independence brought, first, the rejection and, later, the recovery of designs from Latin America's Spanish and Portuguese cultural past, while the economies of these new nations continued to rely on the export of raw materials to European and North American urban centers, which came to symbolize all that was new and prosperous. The construction and representation of modernity in the 20th century was therefore marked by the struggle of Latin American artists and intellectuals to create cultures of their own. To understand this struggle and the uneven and diverse "modernities" that emerged in these countries, we must acknowledge the importance of *mestizaje* (mixed blood), a term used today to refer to the cultural hybridization produced by contact between native populations and Europeans. This process was most clearly played out in the visual arts, literature, and music, but architecture was also influenced by an ambiguous, even conflictive, relationship with European cultures, building traditions, and styles. You will not find in this book a sense of how architects and designers in Latin America dealt with these issues, or with the limitations, contradictions, and paradoxes of their own place and time in relation to the dominant cultures and technologies of world powers. But you will find those large-scale

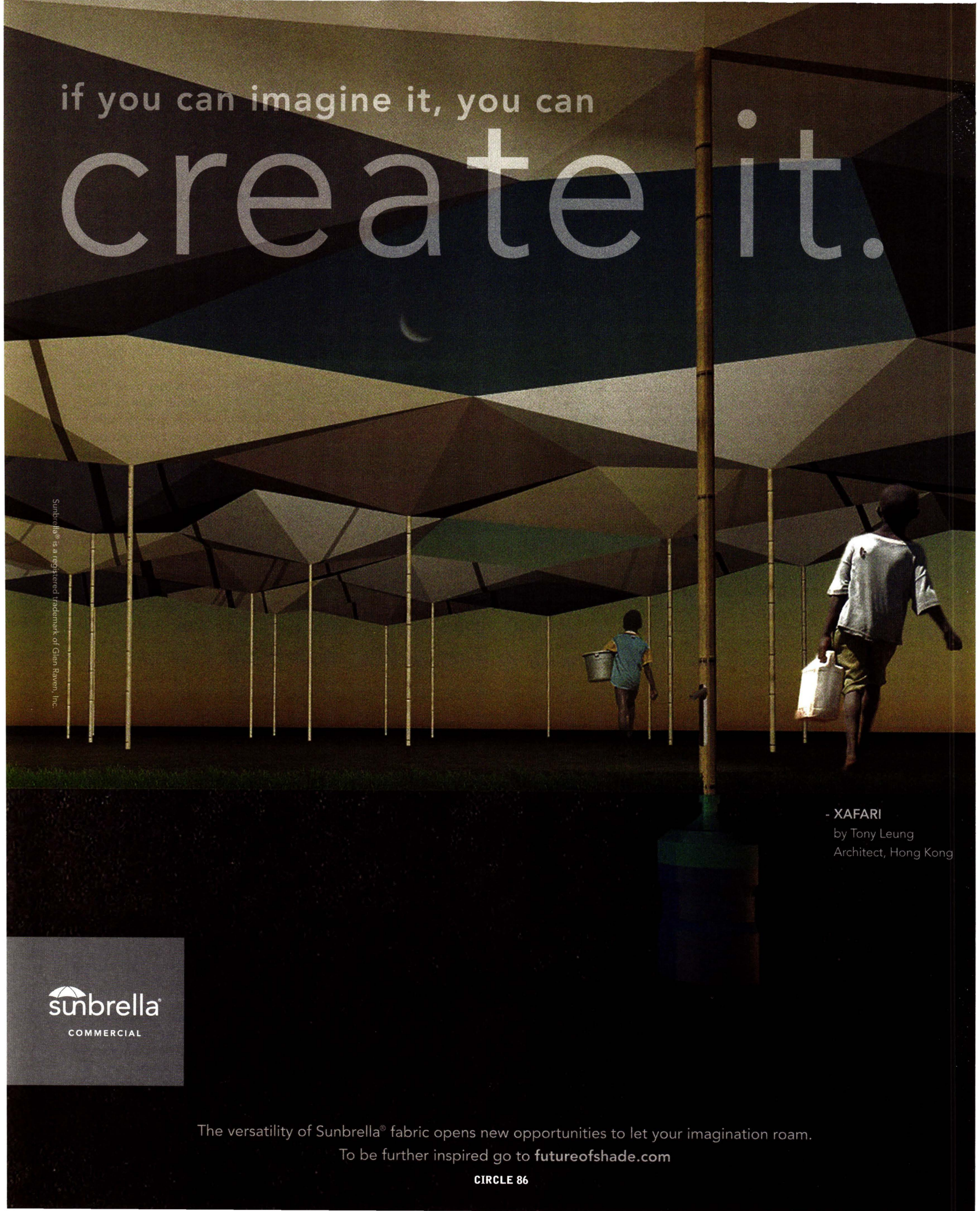


projects that elicited the attention of American and European critics. They were the university campuses and huge blocks for public housing in Caracas and Mexico City, as well as Brasilia. They were all designed in a style supported by the state to broadcast to the world the modernity of their countries.

In lieu of an analytical structure, Carranza and Lara provide a "navigational system," loosely defined by three themes: art, technology, and utopia. In addition, color-coded pages separate the historiography's "canonical" works from the "minor" ones. Many Latin American architectural historians will take issue with relegating to the category of "minor" such significant buildings as Rogelio Salmona's Torres del Parque in Bogota, Lina Bo Bardi's Museum of Modern Art in São Paulo and Eladio Dieste's Church in Atlántida, Uruguay. Other projects, like Cuba's Pavilion at the Montreal Expo of 1967, or that country's ambitious housing and school-building program after the revolution, are excluded completely, raising questions about the authors' selections. Carranza and Lara admit that they do not pretend to be inclusive, so this history must be taken as a provisional one. For faculty teaching courses on Latin American architecture, it will be important to identify the book's deficiencies, so additional research and analysis can rectify them.

Nonetheless, professors Carranza and Lara should be commended for trying to provide a wide-ranging guide, though it is limited to biographical sketches of architects, descriptions of buildings (often without images), and brief notes that simply locate the buildings in time and place. They have approached their complex subject by compiling and reading the relevant bibliography, most of it in Spanish, and organizing the selected buildings and events chronologically, as Ph.D. students must do. The really difficult work begins now, in crafting a conceptual structure for analysis and a narrative that transcends merely the facts of Latin America's past 100 years of architecture. ■

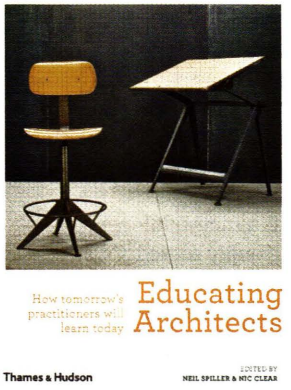
Susana Torre is an architect and scholar who grew up in Argentina, practiced in New York, and now lives in Spain. She has taught courses on Latin American architecture and planning at Yale University and New York University.


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CIRCLE 86

Educating Architects: How Tomorrow's Practitioners Will Learn Today, *edited by Neil Spiller and Nic Clear. Thames & Hudson, November 2014, 352 pages, $50 (hardcover).*

Reviewed by Peggy Deamer

THIS IS actually three books in one. As a collection of 40 essays by 35 different authors, it is, first, an advertisement for the University of Greenwich's Department of Architecture and Landscape in its new location at the Maritime Greenwich World Heritage Site outside of London and its assumed new relevance. It is, alternatively, a platform for schools of architecture that indulge "radicality," "innovation," and visions of the "future." And, finally, it is a history of various schools offering alternative (read: anti-institutional) modes of education.



The first of these is rather charming as you see Neil Spiller and Nic Clear, who edited the book and teach at Greenwich, pour their enthusiasm for a type of education—a mix of the approaches of the Architectural Association (AA), SCI-Arc, and the University of Applied Arts in Vienna—into the pedagogy of their new department. Their anticipation of bypassing leaden, myopic, and risk-averse academia is clear, even if you, as a reader, feel a bit queasy about their self-promotion. The third "book" is also enlightening. The histories of the AA, and architecture programs at UCLA, the Berlage, and Cornell, for example, though not unknown, are told here by current teachers at these schools who offer insights into the struggle to simultaneously build on and transcend institutional legacies. It is the second "book" that is troubling, since it assumes that teaching formal radicality is "how tomorrow's practitioners will learn today." In other words, prejudice masquerades as a list of relevant schools.

The introduction by Spiller is quite inspiring, in part because of his optimism. "Architectural education is a delicate ecology, but thankfully it is in the hands of deans and directors . . . who vigorously defend its integrity . . . and students from the vicissitudes and strange economies of academia," he writes. He also indicates that innovation won't be equated with software pyrotechnics. He says he has learned "that the world is not in thrall with parametricism, and the nagging fear that it has become a fashionable rash across the world is unfounded." But the preponderance of chapters, pedogogies, and images celebrating unusual forms—nay, formal imagery—for their own sake belies those statements.

This may or may not be cause for dismissal. A reader could mark the inconsistency and just move on to read about how Hernan Diaz Alonso, Hani Rashid, Evan Douglis, or a host of others are pushing disciplinary boundaries. Or one could note that, tucked into the book, are outliers who have smart things to say about contemporary architectural education. For example, Ben Nicholson's short essay, "Wot got left out," moves beyond platitudes of envisioning the future. "I mean, how in all consciousness can we design a boat house on the Thames, while half the residents of the globe live on $2 a day?" he asks. Similarly, Mark Burry describes how his Spatial Information Architecture Laboratory at RMIT inserts practitioners into education and mixes academia with industry. Mark Morris's essay on Cornell reveals that school's struggles for digital relevance and raises the issue of online courses for architecture. Nigel Coates examines the elephant in the room: the disproportion between the cost of architectural education and its marginal power. In a book preaching globalism, the editors recognize that there might be Chinese educators, so they include an essay by Kongjian Yu on Peking University.

But it is depressing to read that future-oriented pedagogy looks so much like the past. Yes, the architectural forms in the book are different from those we saw 40 years ago, but the paradigms have barely budged. Here, the AA under Alvin Boyarsky is still *the* model. The Archigrammy "just play" rhetoric of Peter Cook at the Bartlett still excites. The imperative to create "sublime architectures that are personal" is still a means to usher in the future. It is so yesterday. We await the book on architectural education that sees that the world today offers architects so much meat that avoiding it to skip to the future is silly. We want the book that understands the need for truly different strategies, ones that empower the architect to change—not just imagine—our future built environment. ■

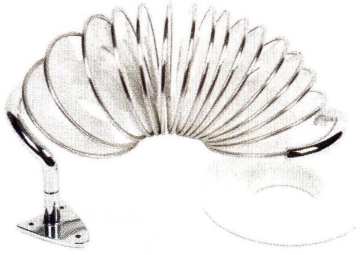
Peggy Deamer is an assistant dean and professor of architecture at Yale and heads Deamer Architects.



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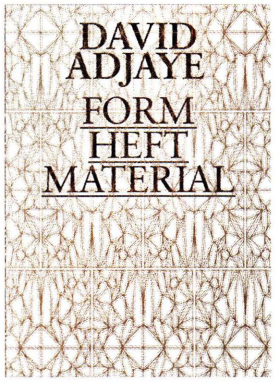
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CIRCLE 20

David Adjaye: Form, Heft, Material, *edited by Okwui Enwezor and Zoë Ryan in consultation with Peter Allison; Yale University Press, April 2015, 296 pages, $55.*

Reviewed by Zachary Edelson

WRAPPED IN golden tracery, this nearly 300-page book showcases the sophistication and craftsmanship of the London-based architect David Adjaye. The book's material is drawn from an exhibition organized by the Art Institute of Chicago (where it's on view until January 3, 2016) and the Haus der Kunst in Munich (through May 31). The introduction, written by curators Zoë Ryan and Okwui Enwezor, defines two essential threads in Adjaye's work: a strong sense of artistry, materiality, and craft, as well as a methodology strongly rooted in the architect's cosmopolitan background as the son of a Ghanaian diplomat who moved the family around Africa and the Middle East. The book seems content to let the former speak for itself in five collections of renderings, drawings, and photography. Essays, interspersed throughout, unravel the latter, and reveal a thoughtful, grounded style. One core inquiry is not spoken but is omnipresent: what can an international, pluralistic, and mobile architect bring to the physical fact of architecture?



Chapters alternate between the essays—by curators, architects, and writers—and the project portfolios. At times, the transition from the exhibition overview to the rest of the text seems rushed, and readers may be perplexed by images that are small or appear out of sync. Yet the promise of the book's cover—a pattern taken from the cladding of Adjaye's National Museum of African American History and Culture (NMAAHC)—is delivered in over 175 color photographs and renderings, along with drawings and diagrams. From an early temporary pavilion—erected in both Manchester, England, and New York—to the igneous black metal of his Sugar Hill housing in Harlem, there's plenty to savor. However, it's the essays that explore the significance of Adjaye's diverse beginnings.

The first essay by Art Institute of Chicago architecture and design curator Ryan provides an overview of Adjaye's methodology and the trajectory of his work. Subsequent authors (including the architect) explore facets of his oeuvre: the social, political, and economic dimensions of his civic projects in London, the influence of his extensive photography of Africa, how he shapes urban space. The language can veer toward the academic, and sometimes a lack of illustration can be frustrating, but overall these works are insightful and clear. "Gestures of Affiliation," written by Haus der Kunst director Enwezor, addresses two projects—the NMAAHC and the Cape Coast Slavery Museum—and how they are immersed in questions of social memory, memorialization, civic architecture, and African history. "Other Monumentalities" by Mabel O. Wilson, Columbia University associate professor of architecture, explores the NMAAHC within a broader history of race and American civic architecture.

David Adjaye's diverse past and sensitivity to the cultural, economic, and political aspects of a site and project exemplify the breadth of his work thus far. As his commissions grow in scale and prominence, it will remain that artistry—such as the NMAAHC's bronze-coated cast-aluminum facade and sweeping porches—sets him apart. ■

Zachary Edelson is an art and architecture journalist in New York.



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CIRCLE 58

perspective books

[BRIEFLY NOTED]

by Laura Raskin

Hawaiian Modern: The Architecture of Vladimir Ossipoff, *edited by Dean Sakamoto with Karla Britton and Diana Murphy. Honolulu Museum of Art in association with Yale University Press, 2015, 304 pages, $45.*

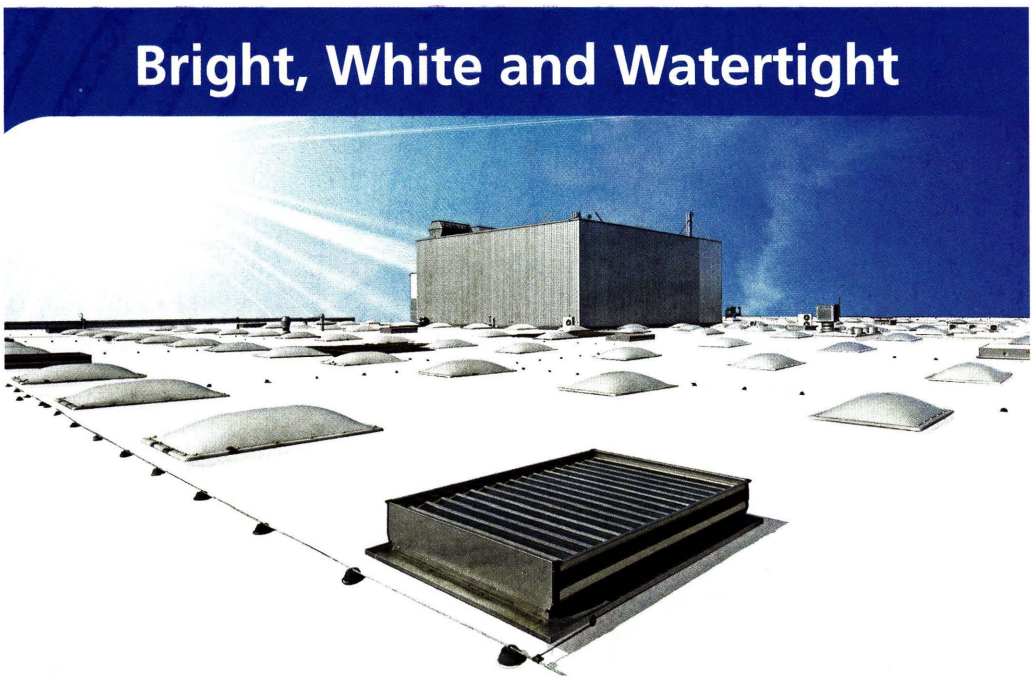
IN HIS forward to the first book to focus on Vladimir Ossipoff (1907–98), the "master of Hawaiian architecture," Kenneth Frampton writes: "We may take it that finding himself in an offshore paradise in a far-flung imperial fragment that was more or less unspoiled, Ossipoff decided, however unconsciously, that the role of the architect was to facilitate and refine the natural, unpretentious requirements of a colonial society as directly as possible, in a climate that, apart from tropical downpours, was benevolent the year round." The Siberian-born Ossipoff grew up in Japan and received his architecture degree from the University of California, Berkeley, in 1931, but Hawaii was the beneficiary of his 67-year-long career. There he became known for residences, public commissions, and corporate projects with a mix of modern and Japanese elements that became his own brand of tropical regionalism. Many of them rarely needed air-conditioning. As tourism became a driving economic engine on the islands, Ossipoff took a stand against overdevelopment. This book, a companion to an exhibition, features in-depth studies of Ossipoff's design approach, and is richly illustrated with black-and-white photographs as well as an evocative color portfolio by Victoria Sambunaris.

Saving Place: 50 Years of New York City Landmarks, *edited by Donald Albrecht and Andrew S. Dolkart. Photographic portfolios by Iwan Baan. The Monacelli Press, 2015, 208 pages, $50.*

FILLED WITH Iwan Baan's people-centric photographs of New York City's five boroughs and his famous helicopter aerials, *Saving Place* celebrates the 50th anniversary of the New York City Landmarks Law. "Much of what we love about New York today we owe to the law and its administering body," writes Robert A.M. Stern in the introduction. With archival photographs, too, the book narrates the preservation movement, from its origins to its later successes and failures. A case study dives into the historic-district designation of Bedford-Stuyvesant, a mostly African-American neighborhood in Brooklyn. But given the impact that the law has had on other cities across the country, the entire book serves as a case study. As the director of the preservation program at Columbia, Andrew S. Dolkart, and his coeditor Donald Albrecht, a respected design curator, are the ideal team for this project.

The Japanese House Reinvented, *by Philip Jodidio. The Monacelli Press, 2015, 304 pages, $60.*

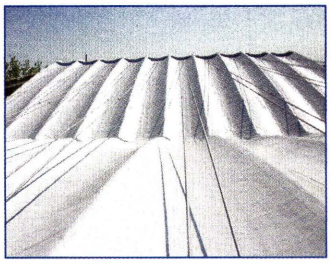
READERS OF architecture blogs (and this magazine) will be familiar with many of the often diminutive houses featured in *The Japanese House Reinvented*, but writer Philip Jodidio—who traveled in Japan to see the featured projects and meet designers—places the 50-odd structures in their rightful context. Extreme density, the threat of natural disasters, a love of kitsch as well as simplicity, and laws pertaining to access of natural light all have a role in sculpting the orderly jumble of Japanese houses. With each house, whether by Shigeru Ban, Atelier Bow-Wow, Tadao Ando, or Jun Igarashi, Jodidio explains materials, site, programmatic needs, and challenges faced by the architects or clients. Roughly three pages are devoted to each project, accompanied by large photographs and an explanatory drawing or two. Though the result is an inspiring encyclopedia of ideas, one wishes that more space could be devoted to a deeper analysis of some of the unique forms and sites. ■



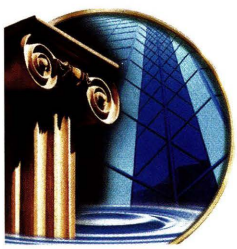
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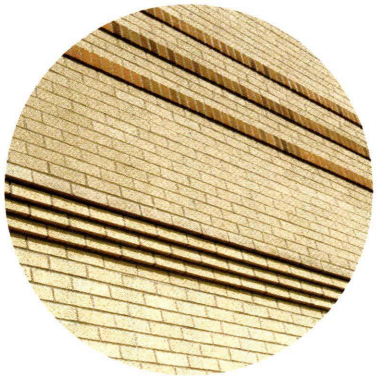
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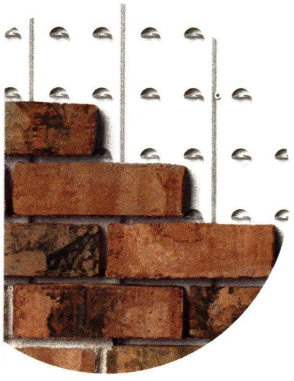
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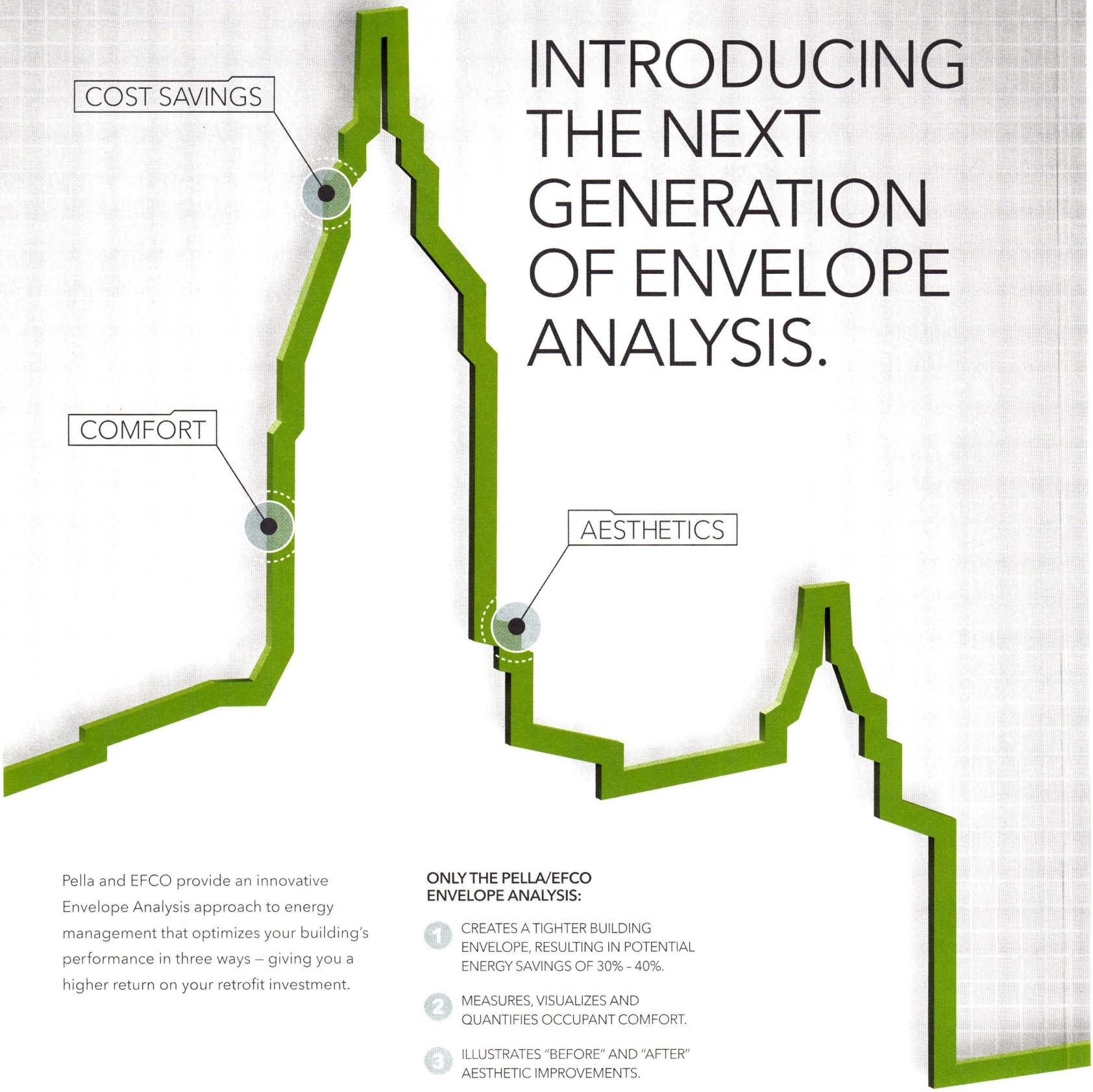


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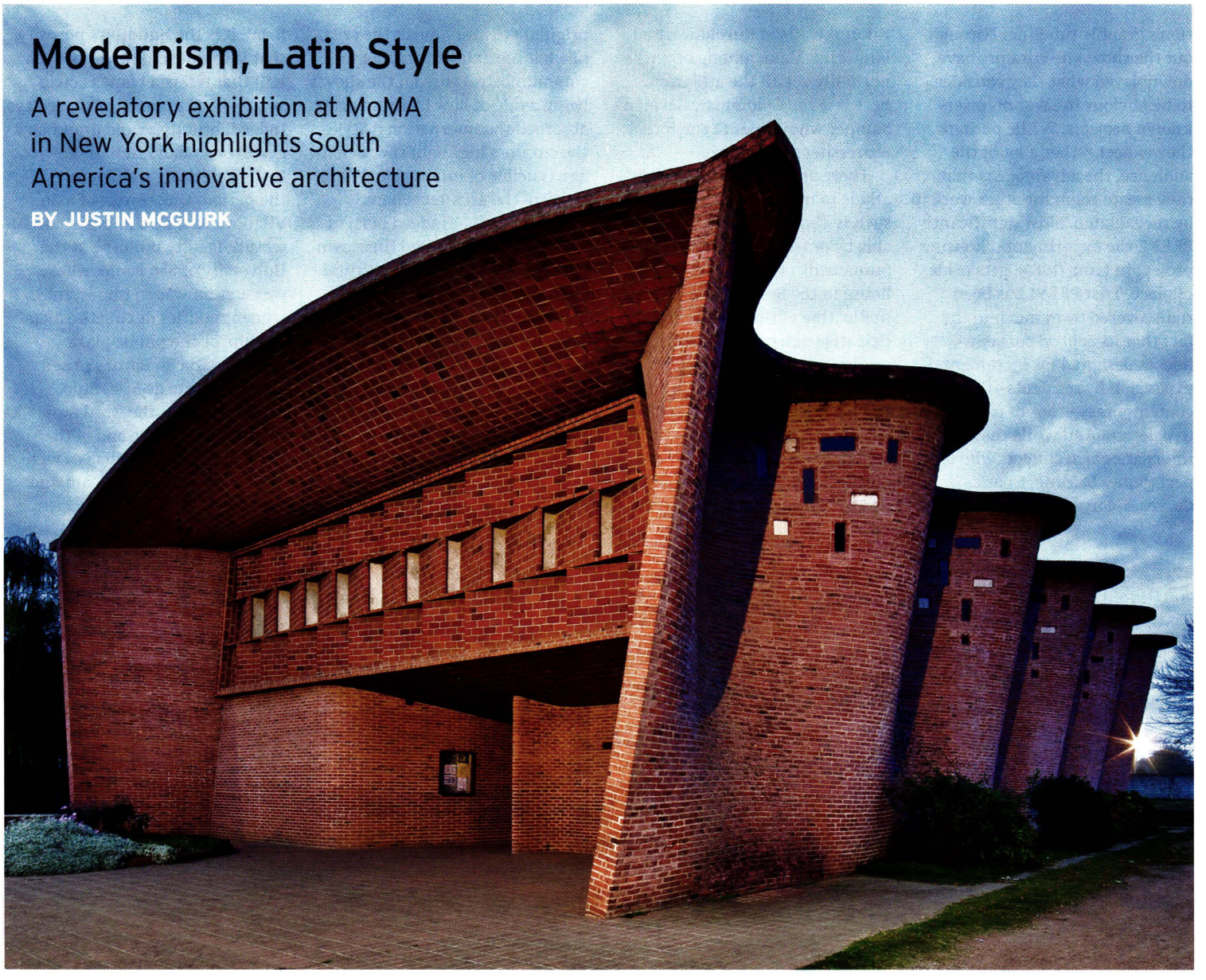
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CIRCLE 23

Modernism, Latin Style

A revelatory exhibition at MoMA in New York highlights South America's innovative architecture

BY JUSTIN MCGUIRK



Church in Atlantida, Uruguay, by Eladio Dieste (1958).

PHOTOGRAPHY: © LEONARDO FINOTTI

SIXTY YEARS after its exhibition *Latin American Architecture Since 1945*, the Museum of Modern Art is picking up the story where it left off. But the sequel, *Latin America in Construction: Architecture 1955–1980*, is on a different order of ambition. Where the first show covered a mere decade, this one spans a quarter of a century during the most architecturally fertile period in the region's history. As a backdrop, two factors propel the architectural agenda. The first is unprecedented urbanization, with cities such as São Paulo and Mexico City doubling in population every decade. The second is a furious process of modernization. The fact that the force behind much of the architecture in this show is the state—whether elected governments or military dictatorships—explains why the curtain comes down in 1980, with the arrival of market-driven neoliberalism. One might call this *Latin American Architecture from Henry Russell Hitchcock to Ronald Reagan*.

What no visitor to the show can fail to notice is the scale of vision demonstrated by nations that, in Octavio Paz's words, were "condemned to be modern." Taking in the 13-foot-long drawing of Rio's Flamengo Park by Affonso Reidy and Roberto Burle Marx, it finally dawned on me what a bold and extravagant plan that was. But it is through another type of master plan that the curators drive their point home: the university campus. Crucial to the act of nation-building was the education of a new professional cadre, and these campuses were conceived as ideal cities on a sweeping scale. Carlos Raúl Villanueva's Universidad Central de Venezuela, in Caracas, is a tropical idyll of landscaped parkland, with covered walkways, monumental architecture, and decorative murals. Like its counterpart, the Universidad Nacional Autónoma de Mexico (UNAM), in Mexico City, it is a Unesco heritage site.

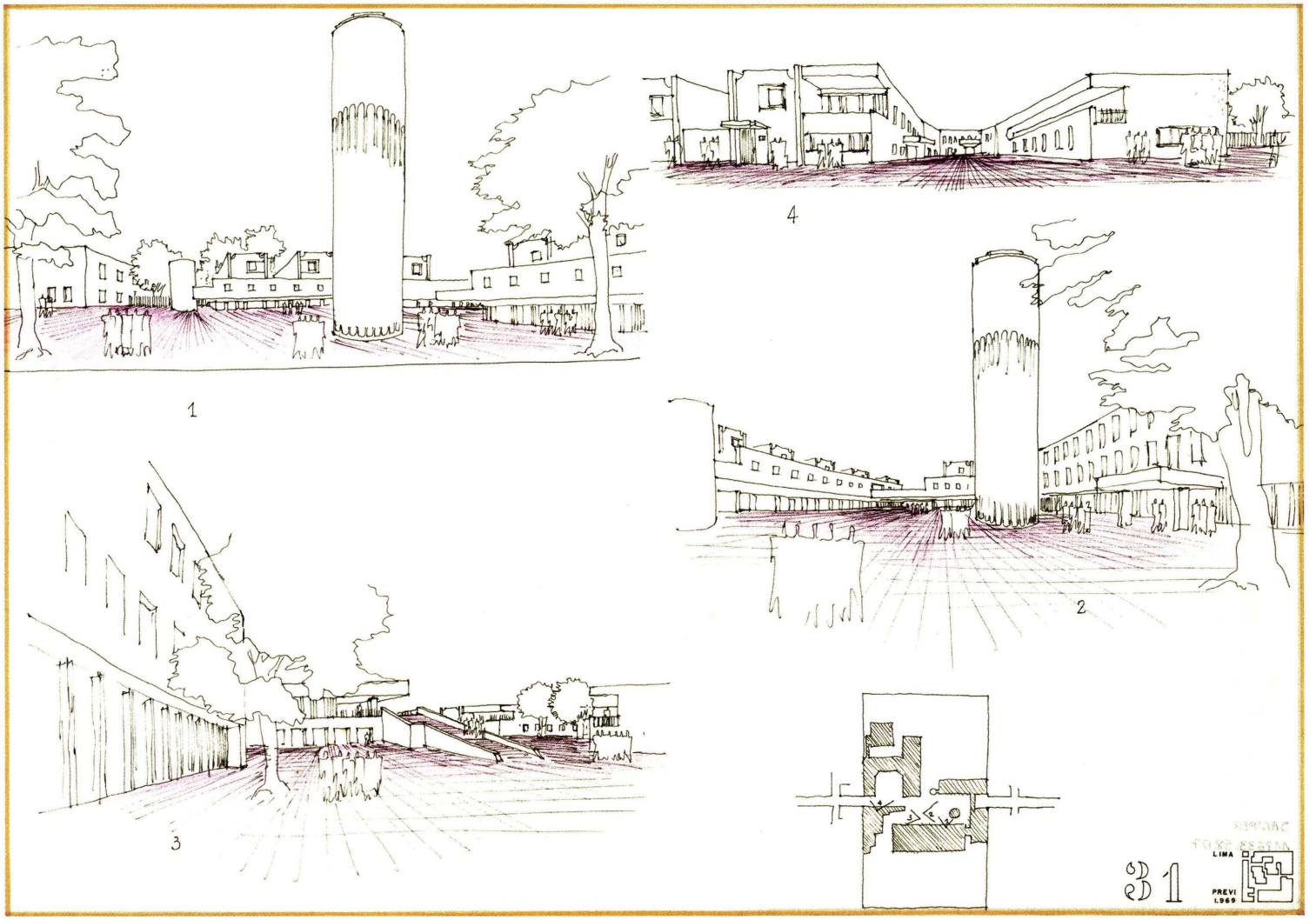
No survey of the period would be complete without the vast modernist housing estates with which the governments of the day attempted to address the urban population explosion. And though present, the most famous of these—Mario Pani's enormous Nonoalco-Tlatelolco in Mexico City and Villanueva's earlier 23 de Enero in Caracas—are relegated to unlabeled images on the exhibi-

tion's graphic timeline. Throughout the show, the curators have downplayed what they consider to be obvious in favor of lesser-known projects. While perhaps they expect rather a lot of the audience, the advantage is that they create room for other work to be reevaluated. Most significantly, PREVI, the experimental housing project in Lima (1969), gets pride of place. That PREVI has been rediscovered owes much to the fact that its central concept—houses designed for incremental expansion by residents—fits a contemporary ethos of participative design. And while the international architects who took part (James Stirling, Charles Correa, Georges Candilis, Kiyonori Kikutake, Kisho Kurokawa, and Fumihiko Maki, among others) normally get all the attention, here it is the Colombian Germán Samper who comes to the fore, redressing the balance.

There are also fragments that allude to much bigger stories. One such is a simple sketch, presumably by or with Carlos Nelson (unnamed), of a floor plan for a house in the Brás de Pina favela in Rio. One of the fathers of participative design, Carlos Nelson prefigures a later generation's commitment to working in the favelas. Like PREVI, Brás de Pina illustrates the radical ways Latin America was beginning to rethink housing and the role of the architect by the late 1960s. And such originality is very much the crux of what the exhibit is trying to communicate. Far from the show's being a tale of how Latin America absorbed the International Style, the curators highlight the region as a crucible of innovation. While many of the architects here were educated or indeed born in Europe, they developed their own language—witness the structural inventiveness of Uruguay's Eladio Dieste or Venezuela's Jesús Tenreiro—and by the 1960s Mexico is even exporting prefab schools to parts of Europe and Asia.

This structural and spatial originality is exemplified by Clorindo Testa's Banco de Londres in Buenos Aires. Testa's brutalist structure is not just arresting as form; it is the building's porosity that is so unusual, with its open hall that treats a bank as civic space—hard to imagine these days. Indeed, brutalism and grand civic gestures go hand in hand in Latin American architecture of the period. One thinks of João Vilanova Artigas's imposing architecture-faculty building at the University of São Paulo, whose vast atrium was so important to student politics during the dictatorship, or the public plaza beneath Lina Bo Bardi's raised Museu de Arte de São Paulo.

Interestingly, the word utopia emerges only at the end of the show, long after Brasilia is a fact. The final section is a dreamland comprised of Valparaiso's Open

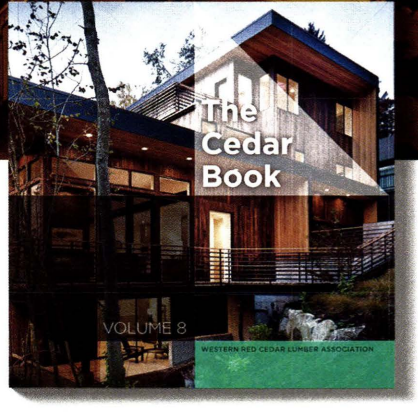


Perspective of public plazas, Proyecto Experimental de Vivienda (PREVI), Lima, Peru, by Rafael Esguerra, Alvaro Sáenz, and Germán Samper (1969).

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City school of architecture, where poetry and performance are as important as building, and the dystopian collages of Jorge Rigamonti depict Venezuela as a technical fantasia of resource extraction. The Argentine Amancio Williams has the last word, with "The city that humanity needs" (1982), a series of drawings of a city as a ribbon wall weaving through green pampas—as the state gives way to the market, buildings give way to paper architecture.

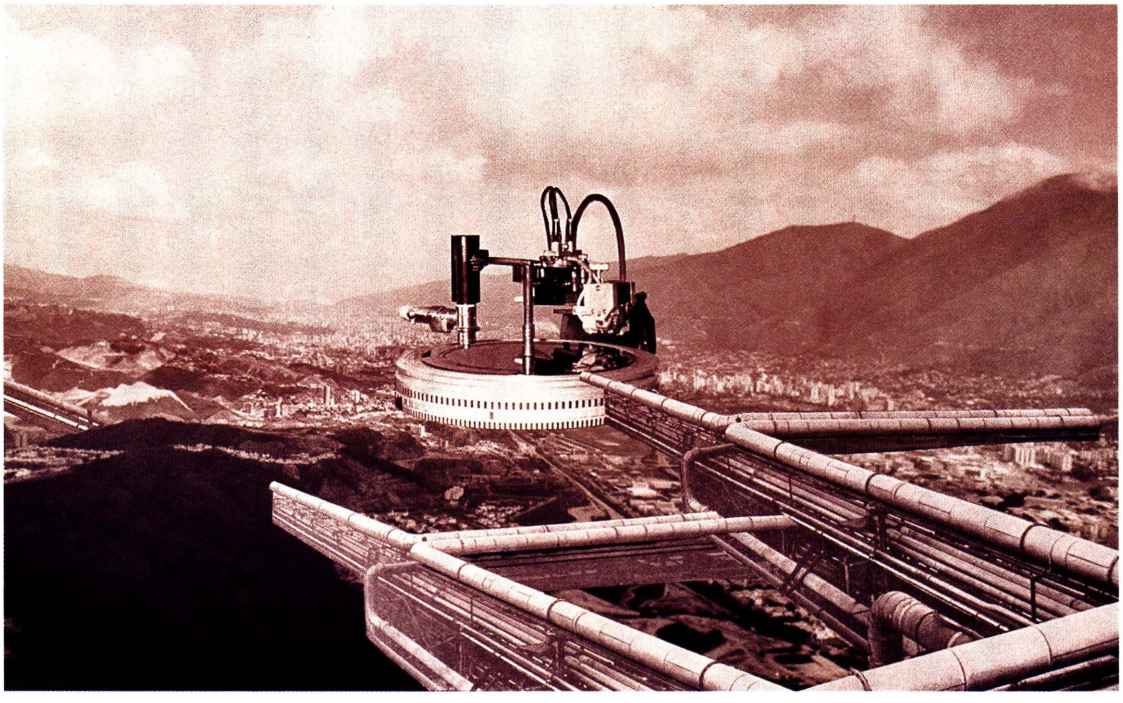
It is in keeping with the tone of the exhibition that Williams's drawings overshadow Oscar Niemeyer's model of the Communist Party HQ in Paris. Niemeyer, the household name, is almost invisible here—too familiar. Williams, on the other hand, emerges as an éminence grise—his drawing of a suspended office building anticipates Testa's bank by more than a decade. These threads and layers are what the show is good at.

This is a rich, kaleidoscopic, and nuanced portrait of the era. And the archival material is sensational—here you can see Lucio Costa's original entry to the Brasilia competition next to those by Artigas and Rino Levi. But the artifacts are occasionally privileged over clarity. How useful is Juan O'Gorman's painting for the mural of the UNAM library without a photograph showing what a controversial building it created? This is a show for aficionados and posterity. It was a hefty undertaking, with four curators—led by MoMA's Barry Bergdoll—and at times it buckles under its own weight.

In the end, though, mass and complexity are exactly what the curators want to communicate. Their disclaimer is in the title—"in construction" refers not just to pouring concrete but to the architectural history of the period, which is still a work in progress. Places in the architectural canon are up for grabs, and many of these architects are long overdue. ■

Justin McGuirk is the author of Radical Cities: Across Latin America in Search of a New Architecture.



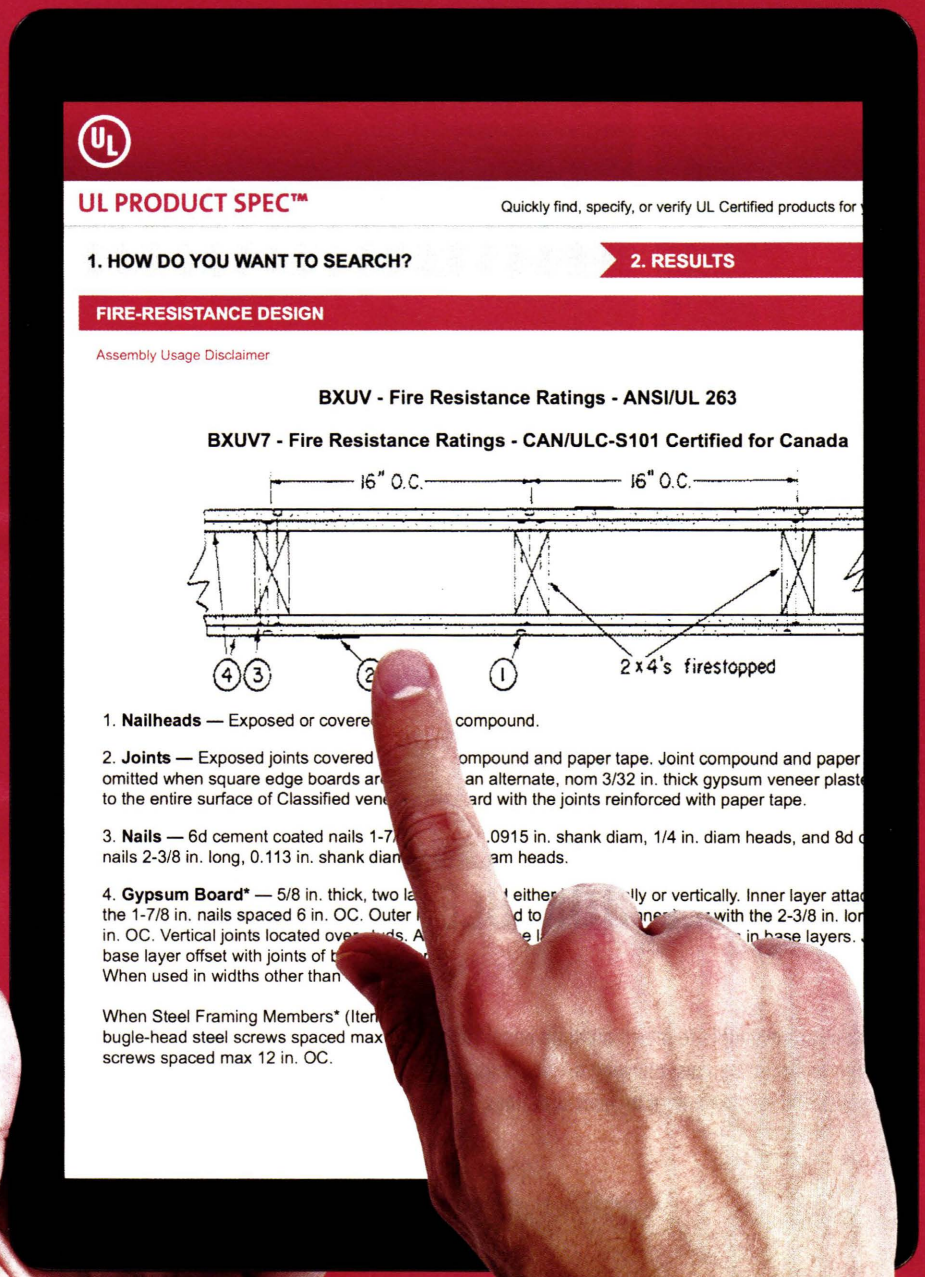


Banco de Londres, Buenos Aires (above), designed by Clorindo Testa (1959–66). "Caracas Nodo de Transferencia" ("Caracas Transfer Node"), photocollage (below) by Jorge Rigamonti (1970).

IMAGES: © COURTESY FABIO GREMENTIERI, ARCHIVO MANUEL GOMEZ PIÑEIRO (TOP); MUSEUM OF MODERN ART, NEW YORK, LATIN AMERICAN AND CARIBBEAN FUND (BOTTOM)

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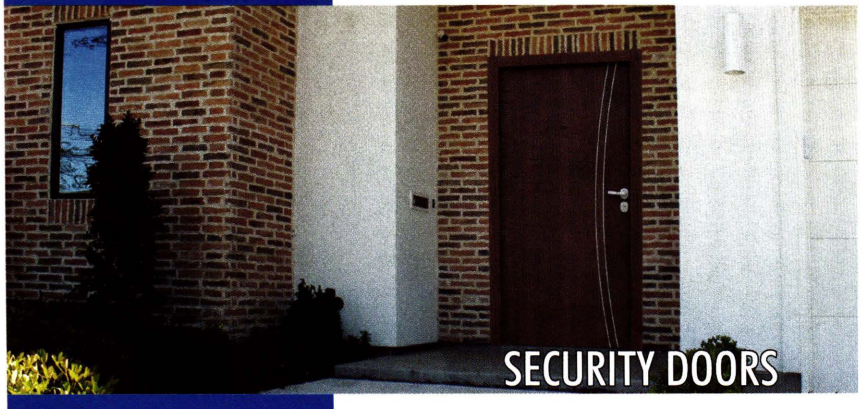
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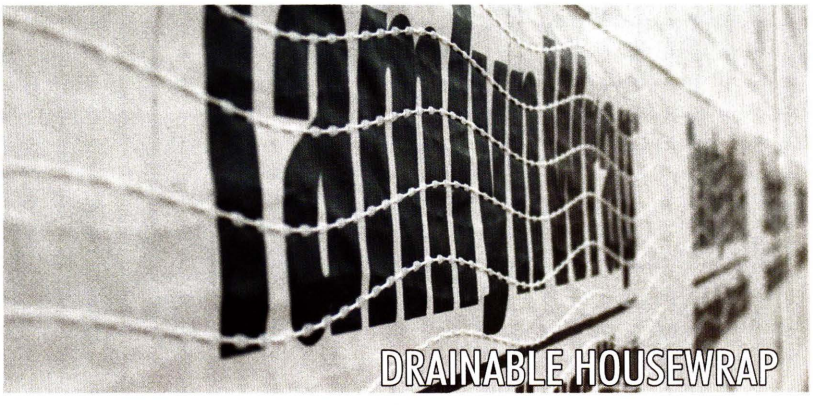
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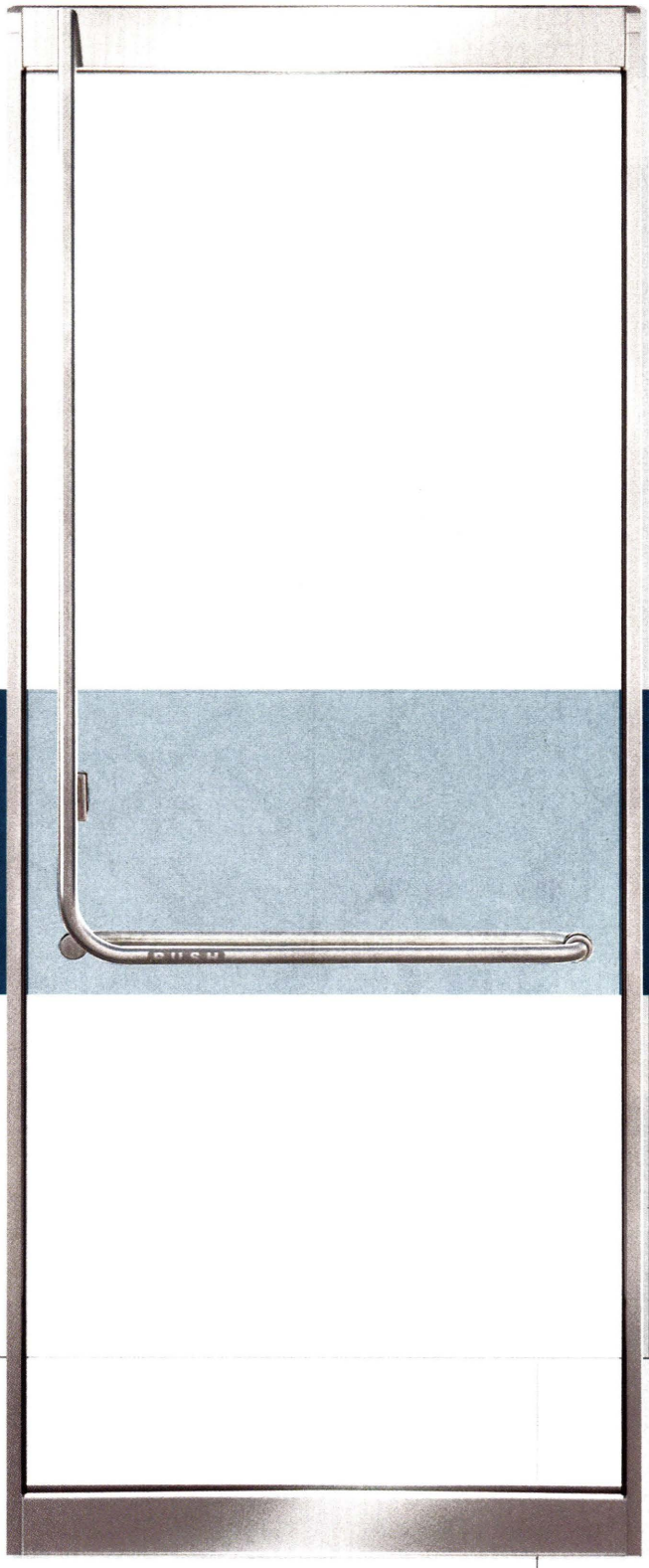
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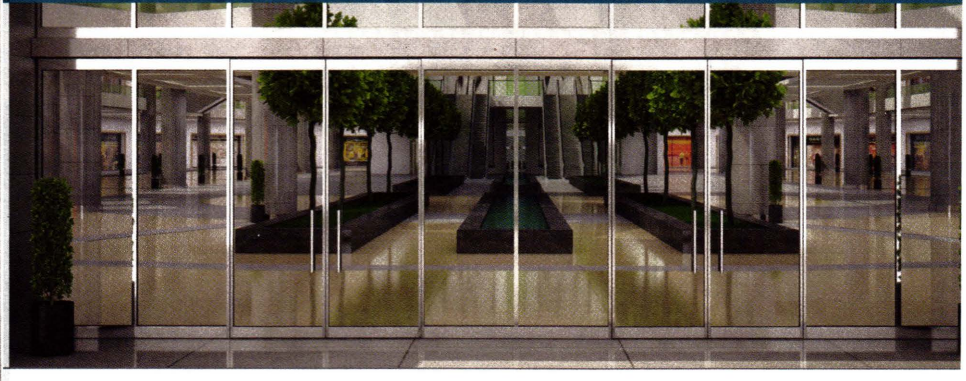
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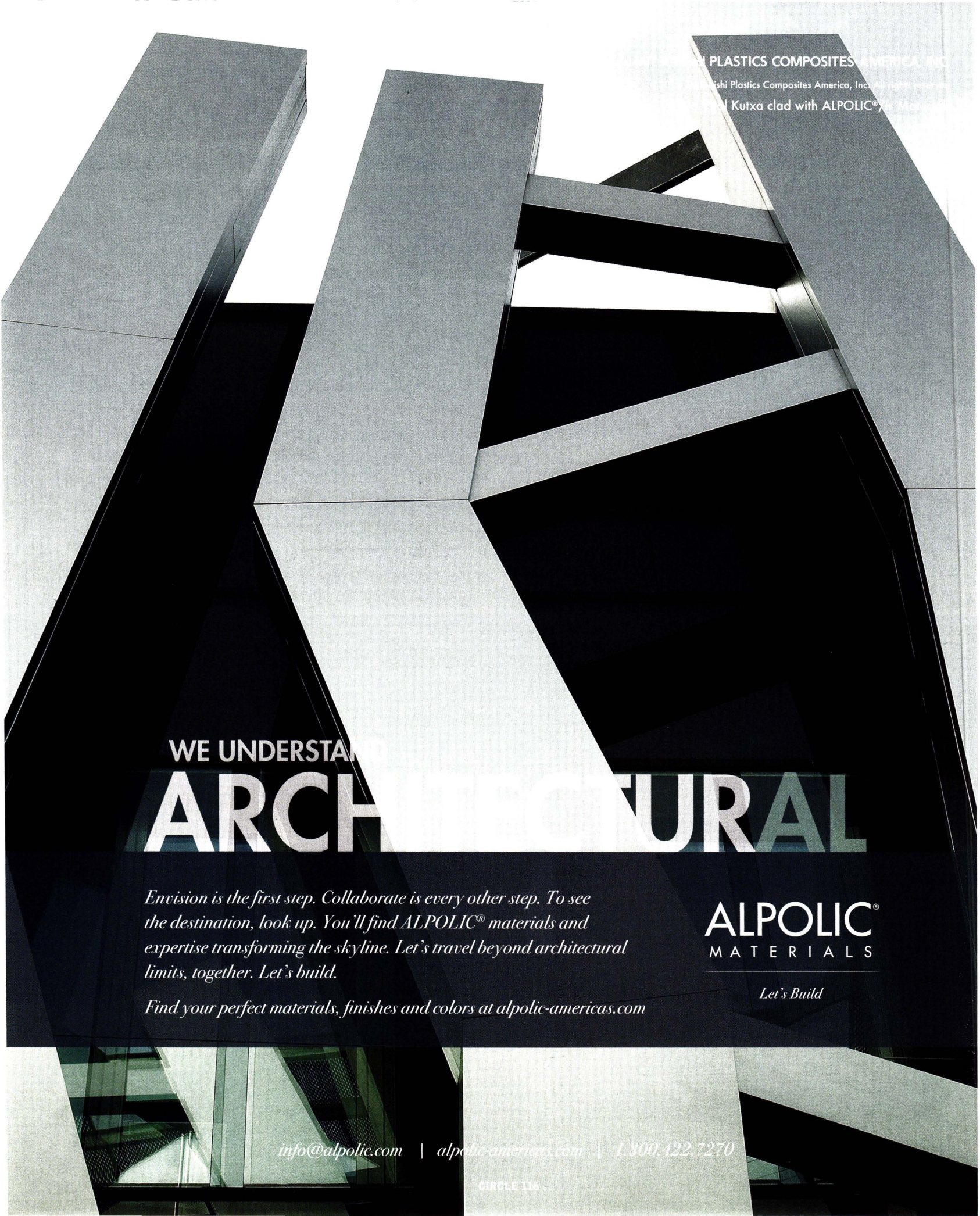
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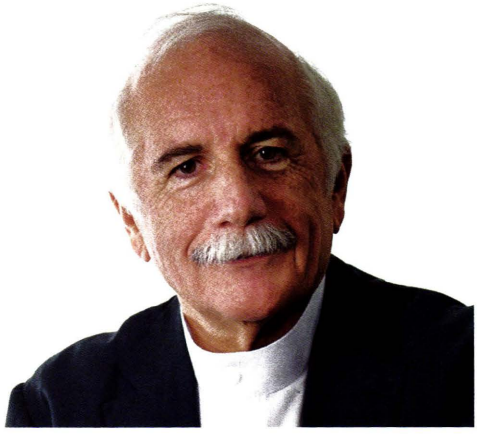
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Beyond Habitat

Beginning with an innovative multi-unit housing project he built in Montreal nearly 50 years ago, Moshe Safdie, this year's AIA Gold Medal–winner, presides over a successful global practice, creating large-scale mixed-use complexes while keeping a firm hand on nearly every aspect of design. BY CATHLEEN MCGUIGAN



THIS MONTH, Moshe Safdie, 76, will receive the 2015 AIA Gold Medal. He first burst onto the architectural scene with his innovative design for Habitat, the clustered, prefabricated housing units built for the Montreal Expo in 1967. A graduate of McGill University's architecture school, the Israeli-born Safdie had been an apprentice to Louis Kahn in 1962–63, before he established a practice in Canada. After designing such projects there as the National Gallery of Canada in Ottawa, he moved his office to Boston, where he ran the urban-design program for Harvard's Graduate School of Design from 1978–84. Still based in Boston, he also has offices in Jerusalem, Shanghai, and Singapore. Among his major works are the Yad Vashem Holocaust History Museum in Jerusalem (1976–2005), the Crystal Bridges Museum of American Art in Bentonville, Arkansas (2005–11), and Marina Bay Sands in Singapore (2006–11). He continues to design large-scale mixed-use projects in Asia and the Middle East and has plans for a residential tower for lower Manhattan. He spoke with RECORD's editor in chief, Cathleen McGuigan.

ARCHITECTURAL RECORD Congratulations on winning the Gold Medal. You've had your own office for 50 years, and expanded to design increasingly big projects on a global scale. How did you build your practice?

MOSHE SAFDIE You know, it's been incremental. With Habitat and subsequent projects, I dealt with radical ideas about urbanism and housing. For a long time, developers were afraid to engage me—they saw me as a kind of dreamer. Then we established ourselves as architects of cultural buildings. And, based on track records like the National Gallery in Canada [1983–88], we started getting commissions around the world in the cultural realm.

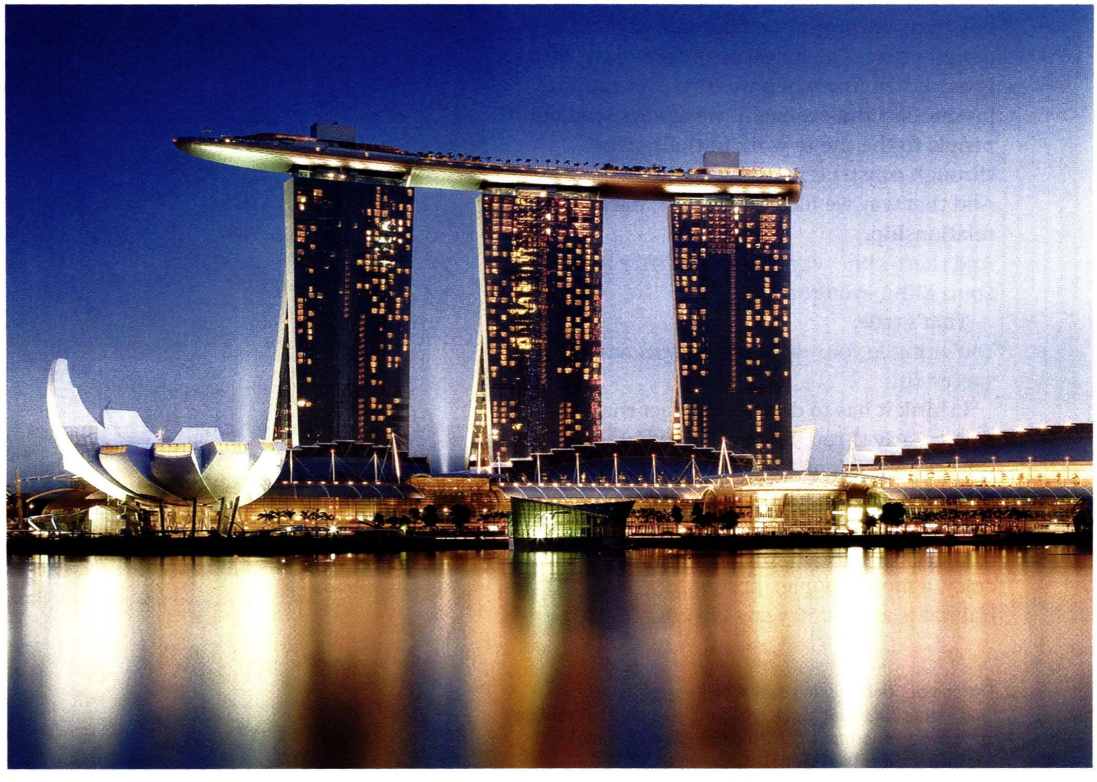
But the breakthrough to getting engaged in mixed-use buildings, and in dense urbanism, was Marina Bay Sands. The commercial viability recast us as a practice. Now we have the opportunity to go back 50 years and start realizing ideas that were incubating after Habitat.

Was this a strategy on your part?

No, not really. The only strategic thinking that I've done was not to specialize. As we



Scheme of a roof terrace atop one tower of a residential complex in Colombo, Sri Lanka (top); Marina Bay Sands (below), the resort and mixed-use development in Singapore (2006–11) that recast Safdie's practice.



IMAGES: © COURTESY OF SAFDIE ARCHITECTS

started to get too many museums, I tried to get a library, and as we were doing libraries, I tried to get an airport. Also, very few offices deal with the range of urbanism that we do, as well as architecture.

How did you get the Marina Bay Sands project?

I got to do Marina Bay Sands because [the developer] Sheldon Adelson loved Yad Vashem, and on the opening night, he offered me the commission. It was an invited competition—I would say that much more than half of what we do comes from competitions.

You now have projects on at least three continents, but you've managed not to balloon beyond about 100 people in your office. How do you manage that?

First, I would say that the practice really was influenced by my apprenticeship with Kahn in the 1960s. What I learned from Kahn is, you get involved in every phase of the work—from the sketch to the detailing of the doorknobs—with equal passion. I decided that's the way I want to make architecture. So that limits what I can be involved in personally.

So you make all the design decisions.

Yes—but that does not diminish the extraordinary contribution of my staff, many of whom have been with me 20 or 30 or 40 years. And the second component is to develop very close relationships with the associate architects with whom we collaborate locally.

How does that work?

We bring their people to Boston—where we do all the design—and they spend months with us during the design phase so that they buy in to the project and become part of the design effort. The house next door to the office is our hotel. And when we turn over the production and oversight, we always send our people to the site to work in their office through construction—always. No exceptions. And that way we have a seamless, harmonious relationship.

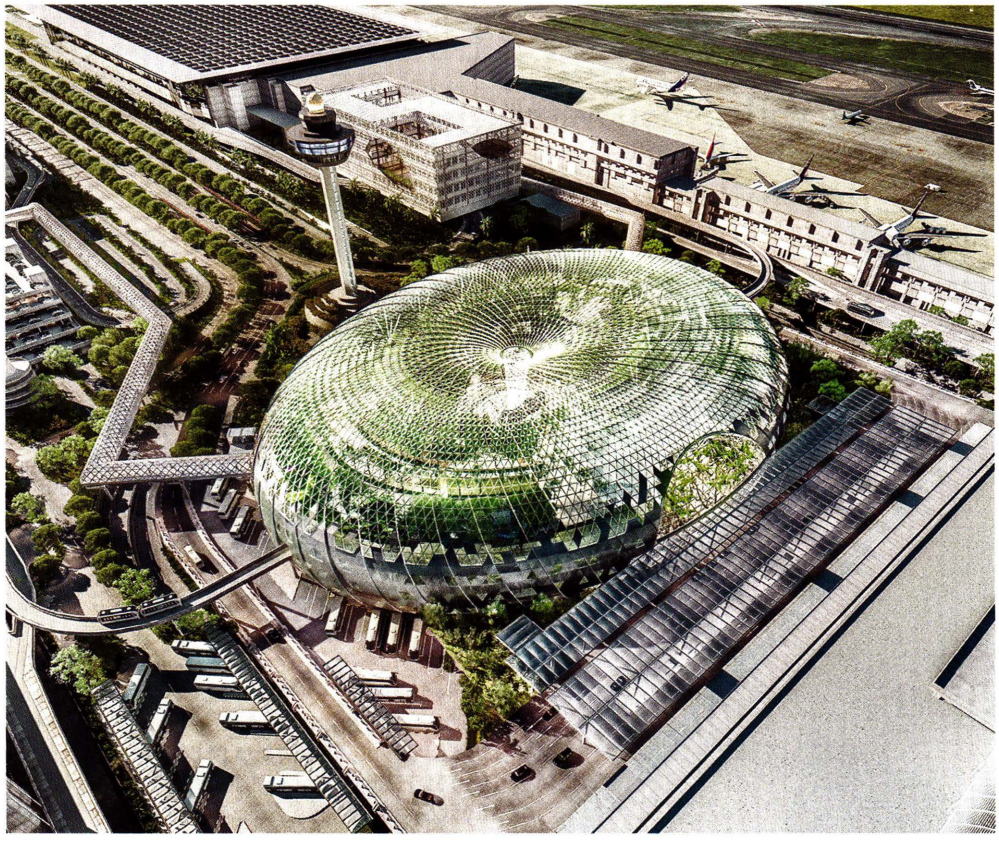
And there's one way you really differ from Louis Kahn—you're not broke!

That's true.

You've made your model of practice very successful.

I think it has to do with the fact that, particularly through the design phases, we are very, very efficient. We work very fast as a team. I'm very fast as a decision-maker. I don't procrastinate. It's not in my nature, you know? And in a larger firm, there's a bigger bureaucracy, a more complex process.

Habitat is almost 50 years old now. It's extraor-





The competition-winning design for Project Jewel, at Singapore's Changi Airport, creates a mixed-use attraction featuring an enormous garden under glass for travelers and local residents alike.


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A rendering of Chongqing Chaotianmen Center in China, now under construction. The design of this mega-complex was inspired by the sailing ships that once docked at this historic port on the Yangtze River.

What I learned from Louis Kahn is, you get involved in every phase of the work—from the sketch to the detailing of the doorknobs—with equal passion. I decided that's the way I wanted to make architecture.

dinary that your very first project propelled you to international renown—and landed you on the cover of *Newsweek*. And some critics—this won't be a secret to you—think that it remains your best project. What was the impact of Habitat on your thinking going forward? There are clearly aspects of it that appear in some of your most recent designs.

It's still difficult to understand how, at age 25, without having built a single building, that something would coalesce—if I can say with all humility—that is such a mature and complex work. It's extremely sophisticated—technically, conceptually. A lot of people were speaking about terraced buildings and new spatial relationships. Many of the ideas that were in the air—and some that were not—coalesced into a building that combined the technology of prefabrication and concepts of the three-dimensional organization of space in a new kind of, so to speak, urban zoning. It was a complete rethinking of what a multiple high-rise structure could be. It opened the way for others and for myself, to a whole range of urban and architectural ideas. Hence its power. For the public, its imagery conjured up hill towns, villages, hanging gardens—all archetypal stuff that wasn't present in architecture at that moment.

Personally, it meant that I'd achieved something early in life that I spent the rest of my life aspiring to, which is okay. On the journey, I discovered many other issues that Habitat did not address, such as regionalism and contextualism. I learned that when building in Jerusalem, and then I applied it to the Canadian work and after, depending on where I was building.

You can see echoes of Habitat on a much vaster scale in the housing complexes you're designing today for places like Colombo in Sri Lanka, and Golden Dream Bay, in 2010, China, with its terraces, gardens, and indoor-outdoor spaces. But there is the issue of scale. Your mixed-use residential project in Chongqing, China, now under construction, will be the biggest work you've built, right? You talk a lot about the values of urbanism and the human experience of architecture. How do you design a mega-project like Chongqing around human scale?

The strategy has to do with light, air and openness, and the hierarchy that gives a complex project a sense of orientation and visibility. These problems actually occur in one form or another in every project, but when you go to a project like Chongqing it becomes even more challenging. The podium has millions of square feet in it. There are eight towers and many entrances, subways and bus stations. You have to give it a structure, so that people know where they are. You've got to manage to get daylight in and some contact with the exterior at every level. You position towers to optimize view and light. You orient functions, for example, so that housing has a southern exposure. A whole series of morphological imperatives are necessary to resolve when you do dense urbanism.

Regrettably, a lot of them don't get enough attention these days. The emphasis is much more on the formal qualities. Yet when you start manipulating towers to optimize views and light, you get very interesting forms.

What about context in places where there really is very little historic context, such as a rapidly expanding megacity like Chongqing?

In Chongqing the context around it is just the wild, contemporary city, growing like weeds. So you want to give it deeper meaning, and I thought well, this site is where the city originated—a great shipping center on the Yangtze. So the inspiration was to create something that had a sense of a gateway and of movement. The project almost appears to be in the motion of a sailing ship—all the way to the deployment of sun screens that look like sails. We curved the buildings in the down-river direction so the complex seems to be

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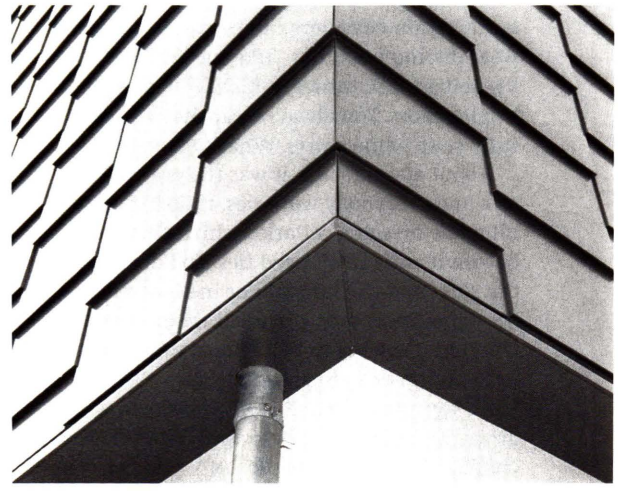
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pulling the whole city along the river.

Talk about the Jewel Changi Airport project in Singapore, which is not an air terminal but a huge destination park under an immense glass dome.

It's almost 2 million square feet, with retail, a rail line, and a bus terminal. But we wanted it to be very special, so my proposal was to create a great garden.

That's an unusual program for an airport. Do you find you have more freedom working in places like the Far East than in North America? Are they more open, despite what the Chinese prime minister said about no more weird buildings?

They're much more open. In Asia, they associate modern, contemporary buildings with progress. This has a good side and a bad side. In my case, I have been able to advance adventurous ideas that I certainly would not have been able to do in North America. The negative side of it is that, because anything contemporary and unusual is associated with progress, it can be misused. So their openness to new ideas and experimentation brings with it a heavy responsibility for the designer.

Considering that you control every aspect of design in your office, do you have a succession plan?

Yeah. In the last five years I've brought in the younger generation in my practice, the ones I have felt had the greatest potential, and I've given—or sold them, technically, but in a very discounted way—a certain percentage of ownership in the firm. I've done it a little differently than the standard kind of formula, because I want them to feel that they have the potential to take this practice and continue it. Obviously, I hope they would complete the projects that we have, because at any given time there's about five years of work on the table in the office. But I do want it to become its own entity, whatever shape it takes. So the practice will continue to bear my name for five years. After that, they need to rename it.

I have just one last question, kind of a silly one. Certain designers can be counted on to wear distinctive shirts—like the late Massimo Vignelli's black tunics or Richard Rogers's bright colors. You always wear those beautifully crisp white shirts. What's the story?

About 40 years ago, it was the era of *Mad Men* and everybody wore ties, right? I figured, if I made myself a collarless shirt, then I can button it and I don't need ties. So I designed the shirt and the same tailor in Montreal has been making it ever since. All we discuss is whether it's going to be the heavy cotton or light cotton or twill and that's it.

Well, your practice and your projects may have grown exponentially, but some things never change. Thank you so much. ■





Golden Dream Bay, a high-density residential beachfront community under construction in Qinhuangdao, China (top), and a view of the plan (above) features stepped, stacked volumes, terraces, and other ideas first explored in Habitat.

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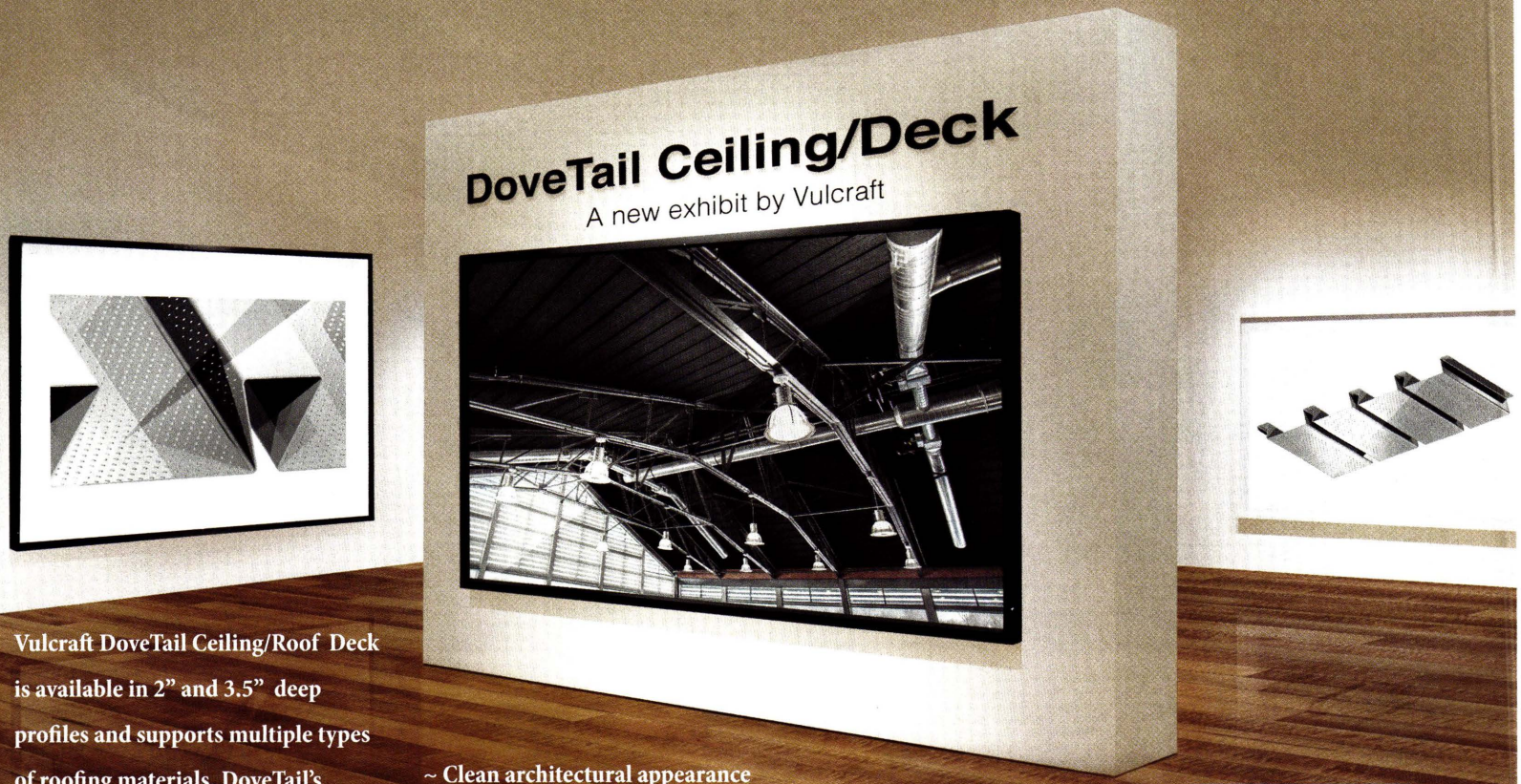
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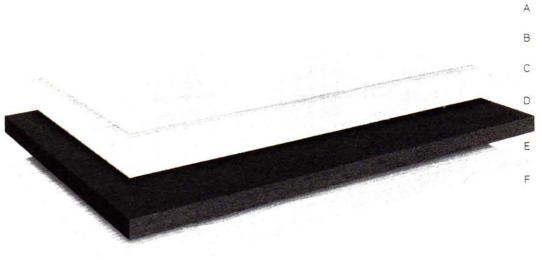
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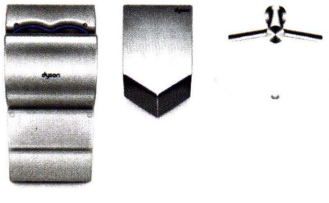
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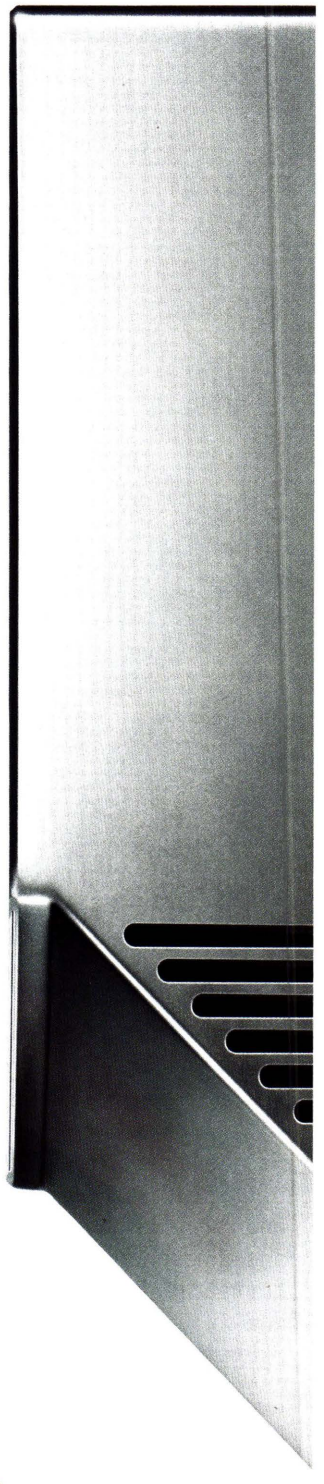
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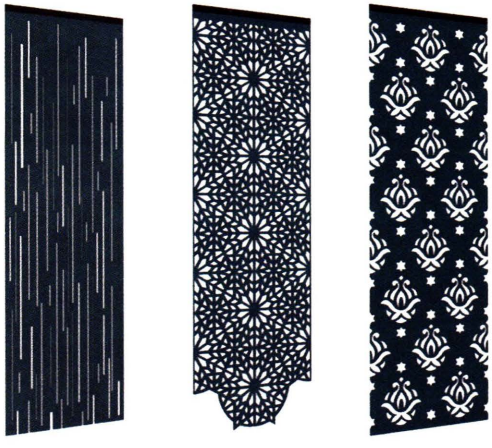
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Box Wall

3form 3-form.com

The manufacturer has developed a new installation system for its proprietary material Varia Ecoresin. Dubbed Box Wall, it uses aluminum extrusions, threaded rods, and 3M's Dual Lock tape to attach aluminum-framed panels of the resin to vertical surfaces. The panels come in most lengths and in heights of up to 10'. A freestanding version, consisting of a base with vertical profiles, is also offered. CIRCLE 200

BuzziFalls

BuzziSpace buzzispace.com

Both decorative and functional, this hanging panel is composed of two layers of felt that help absorb sound when installed on walls. Alternatively, the product can be suspended from the ceiling, via a metal profile and cables, to visually divide space. The felt is CNC-cut in seven motifs ranging from geometric patterns to birch-tree silhouettes and city skylines. Each measures 31½" wide x 86½" or 98½" high. CIRCLE 205

Chroma Wood

Architectural Systems archsystems.com

The Japanese charring technique of *shou sugi ban* is combined with deep saturated hues to give rich character to cypress, yellow pine, and redwood panels. Produced in random lengths of 8' to 10', the planks come in tongue-and-groove, shiplap, Tex-gap (asymmetrical tongue-and-groove), or square-edge configurations, and are suitable for both interior and exterior applications. CIRCLE 201

Stacked Softwall

Molo molodesign.com

Ten years ago, the nonwoven polyethylene partition system Softwall wowed the design industry with its flexibility and strength. Molo is now demonstrating that it can be stacked up to 16' high without any fasteners, relying solely on the product's own weight and stability. The material—100% recyclable after use—is resistant to water and UV rays, while the honeycomb structure of the walls has inherent sound-dampening properties. CIRCLE 204

System 1224

B+N Industries bnind.com

Ideal for retail or hospitality environments, this wall system utilizes vertical brackets with pins onto which end-users can clip or hook a variety of panels and steel shelves or cabinets, without the use of tools. The 12" x 24" panels come in a range of designs and in materials from steel to veneer, can be customized with logos and graphics, and backlit. Floor-standing display options are also available. CIRCLE 202

Interlok Plank

Metalwërks metalwerksusa.com

Light and shadow play create visual interest across the west and south facades of Rutgers Business School in Piscataway, New Jersey, thanks to a custom rainscreen design by TEN Arquitectos. The system holds 30,000 square feet of Interlok Plank aluminum panels, specified in four different profile shapes to produce the multidimensional effect. Gaskets in the open vertical reveals help minimize water penetration. CIRCLE 203

For more information, circle item numbers on Reader Service Card or go to architecturalrecord.com/products.

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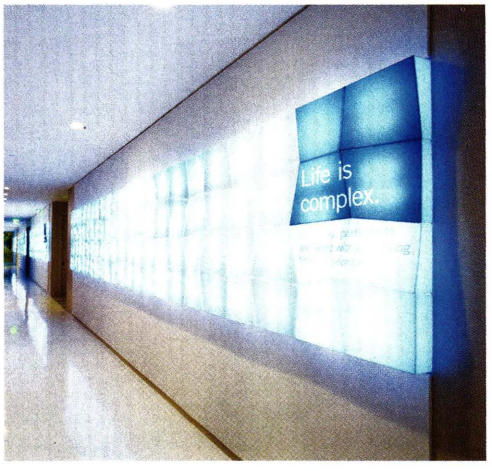












Stella

ModularArts modulararts.com

Newly added to the InterlockingRock panel line, the Stella pattern resembles a hybrid of a flocked wallcovering and classic ornate plasterwork. The sculptural, VOC-free panel comprises a top layer of glass fiber–reinforced gypsum on a lightweight plant-based foam core, resulting in a weight of 1½ pounds per square foot. Each unit measures 32" square and is paintable. CIRCLE 206

Aria

Inscape inscapesolutions.com

Clean-lined and minimal, this interior wall system combines a low-profile extruded-aluminum frame, in an anodized matte black or white finish, with opaque or clear glass panels. The latter can be customized with tints, sandblasting, patterns, or films to add semi-privacy while maintaining open sightlines. Single- and double-glazing options are offered to meet different acoustic needs. CIRCLE 207

Linea

Equitone equitone.com

A temporary pavilion in London designed by Studio Weave not only showcased local craftspeople but also a ribbed fiber-cement panel from Equitone called Linea. Several shapes, in sizes of up to 4' x 10', clad the sawtooth structure, which hosted workshops during Clerkenwell Design Week 2014. Linea is a through-body color product that can be cut in any shape and size at the plant or on-site. CIRCLE 208

Dynamic Spaces

Visual Magnetics visualmagnetics.com

Whiteboard paint may transform walls into writable surfaces, but Dynamic Spaces allows end-users to interchange and revert wall function and appearance indefinitely. The system consists of a magnetic primer paint and a mid-layer of flexible magnetized tiles. More than 20 coverings—from dry-erase surfaces to graphic prints—can be purchased, unrolled onto the tile layer without the use of adhesives, and easily swapped. CIRCLE 211

Striata

TorZo Surfaces torzosurfaces.com

Layers of 100% SFI-certified Douglas fir veneers create the linear pattern of these interior wood panels. Two formats are offered: Striata 360 measures 48" x 96" x ¾" and is finished on both faces, while Striata Surface, measuring 47" x 95" x ¾" or ¼" thick, is single-faced with a Meranti plywood substrate. Both products are formaldehyde free and low VOC, and are well suited to ceiling, wall, cabinetry, and furniture and casework applications. CIRCLE 210

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Seeyond Architectural Solutions seeyond.com

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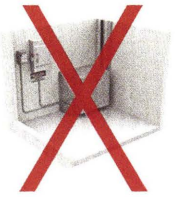
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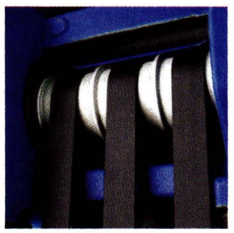
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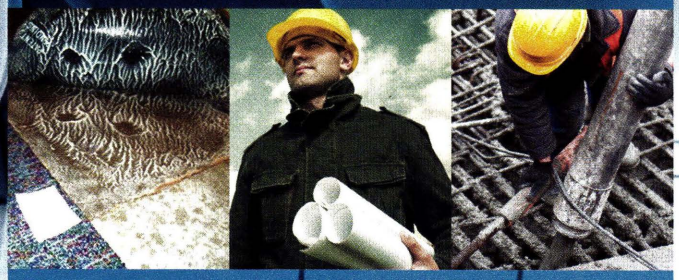
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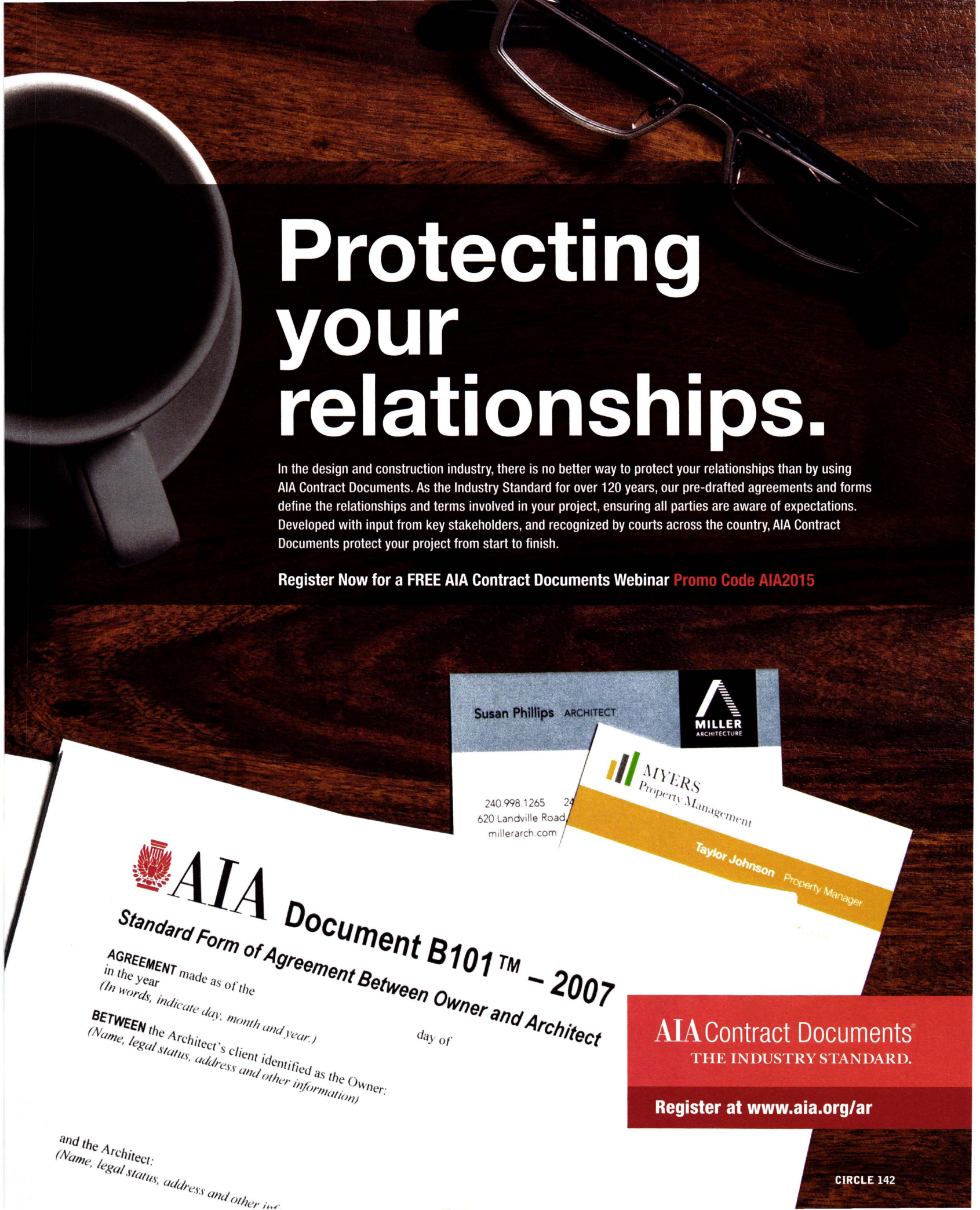
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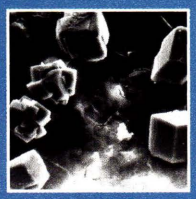
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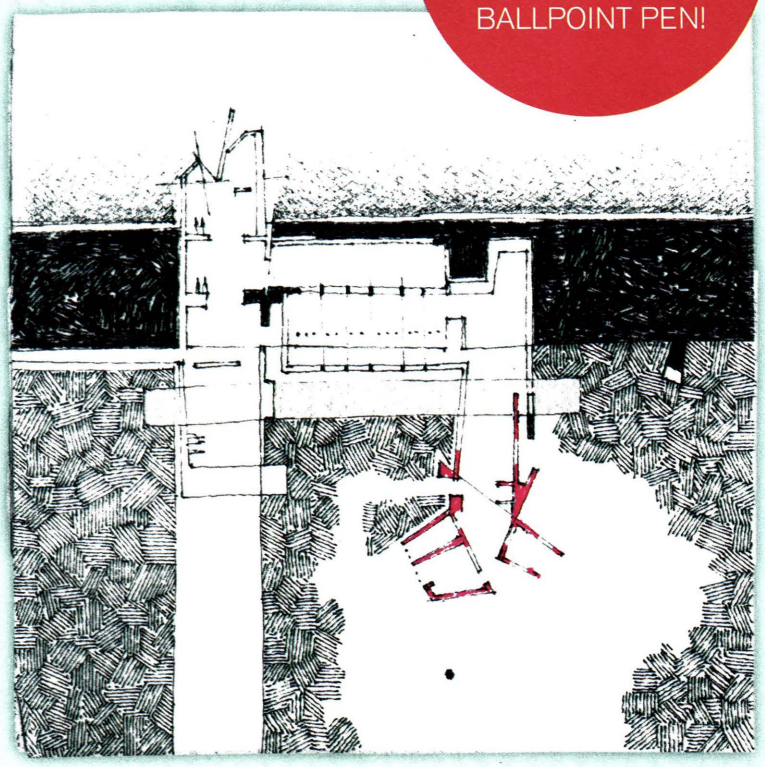
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The sketches of the winners and runners-up will be published in the September issue of Architectural Record and shown online in the Archrecord.com Cocktail Napkin Sketch Gallery.

HOW TO ENTER:

- Sketches should be architecture-oriented and drawn specifically for this competition.
- Create a sketch on a 5-inch-by-5-inch white paper cocktail napkin.
- Use ink or ballpoint pen.
- Include the registration form below or from the website.
- You may submit up to 6 cocktail napkin sketches, but each one should be numbered on the back and include your name.
- All materials must be postmarked no later than June 30, 2015.
- You scan and email your entry to ARCallforEntries@construction.com



2014 winner and sketch: David Fox, E. Fay Jones

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When you register for the contest, your personal contact information provided on the registration form is added to an electronic mailing list so that we can select the winner. We may share the data collected about entrants with other units within Dodge Data & Analytics and with companies whose products or services we feel may be of interest to you.

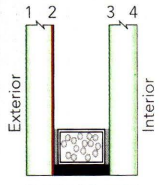
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ARCHITECTURAL RECORD | 2015 AWARDS

good design is GOOD BUSINESS

WHEN RECORD first launched the Good Design is Good Business Awards in 1997, attitudes toward the impact of design on profit were changing. According to the editors at the time, corporations and entrepreneurs were just beginning to recognize the benefits of a thoughtful, well-executed workplace or business environment. Today, design excellence is a growing movement, as indicated by the range of this year's nine winning projects. From innovative facilities for nonprofits like London's JW3 and Boston's District Hall to the reconsidered environments of such established industry icons as Macy's Herald Square and McCann New York (its Gensler-designed office shown here), each is the result of a successful collaboration between the client and design team—one that never loses sight of the business plan, the employee and user experience, or the bottom line.

McCann New York
Gensler

District Hall
Hacin + Associates

Macy's Herald Square
Various Design Teams

Generator
DesignAgency

SF JAZZ Center
Mark Cavagnero Associates

Grand Rapids Downtown Market
Hugh A. Boyd Architects

JW3 London
Lifschutz Davidson Sandilands

Swedbank Headquarters
3XN

George Brown College Waterfront Campus
Stantec Architecture and KPMB Architects



MCCANN NEW YORK, DESIGNED BY GENSLER

PHOTOGRAPHY: © GARRETT ROWLAND

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GOOD DESIGN IS good business



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McCann New York
Gensler New York City

IN *MAD MEN'S* season 3, the protagonist, Don Draper, referred to the old-guard ad agency, McCann Erickson (then riding high for its 1963 campaign "Things Go Better With Coke") as a "sausage factory." After the show aired in 2009, McCann posted on its website a humorous, fast-paced "commercial" collaging the many mentions of the firm on the show and welcoming Draper's fictional Sterling Cooper agency to its precincts (see it on YouTube). Then, a few years later, McCann decided its New York headquarters were ready for a new look.

Was the decision to redesign five floors of a Midtown Manhattan high-rise related to the company's depiction as overly staid on *Mad Men*? "Absolutely not," says Linus Karllson, McCann's chief creative officer of global brands at the time. But he acknowledges that the workplace "wasn't necessarily as inspiring as it needed to be." He started conversations with Brian Berry, design director at Gensler, and Tom Dixon, the British designer, whose idiosyncratic furniture, lighting, and accessories Karllson admires.

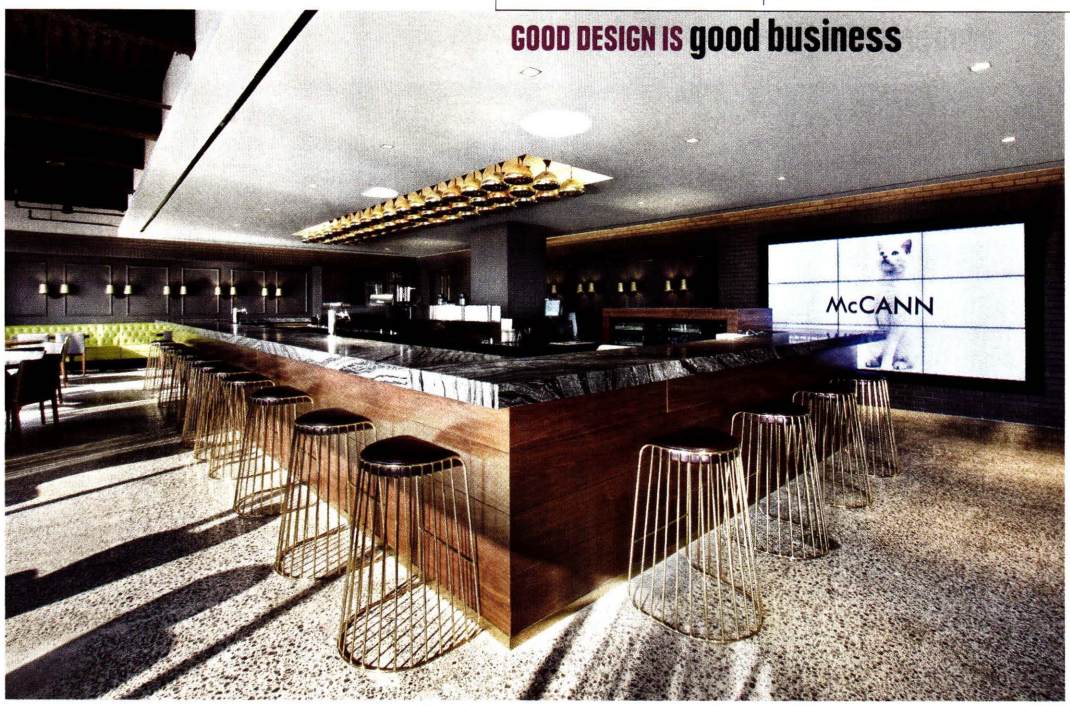
Karllson wanted the new design to reflect McCann's 100-year history yet create a setting that reflects today's work patterns and attitudes. It would attract young creative people, spark their imagination, and show clients that the agency that came up with l'Oreal's "Because I'm worth it" (in 1973) was still worth buying into.

The design team aimed to bring a domestic feeling to the office landscape, punched up with a certain razzmatazz through quirky furnishings and light-

Gensler carved out a double-height space for the 23rd and 24th floors in McCann's Midtown Manhattan office building (above). Because these two floors would be devoted to the creative department, the team, including British designer Tom Dixon, aimed for a homey-but-downtown look of a boutique hotel. A spiral stair connects the sitting areas with the two levels of cafés.

View additional images at architecturalrecord.com.

GOOD DESIGN IS good business



credits

ARCHITECT: Gensler – Brian Berry, design director; Robert Cataldo, principal in charge; Chris Barbaro, project manager; Michelle Devins, designer; Karen Solomon, project architect; Stephany Geng, job captain

ASSOCIATE DESIGNER: Tom Dixon

ENGINEERS: Robert Derector Associates (m/e/p)

CONSULTANTS: Lighting Workshop (lighting); Spectra Audio Design Group (audiovisual)

CLIENT: McCann New York

SIZE: 107,500 square feet

COST: withheld

COMPLETION DATE: July 2013

SOURCES

INTERCONNECTING STAIR: Milk Design

PLANTINGS, OFFICE FRONTS, PARTITIONS: DIRTT

McCann's main reception area (right) is in a double-height space on the 26th floor. A grand stair enclosed by metal rods connects the two levels. Gensler worked with British designer Tom Dixon to create the look of a hotel lobby, including a café under a mezzanine (above).





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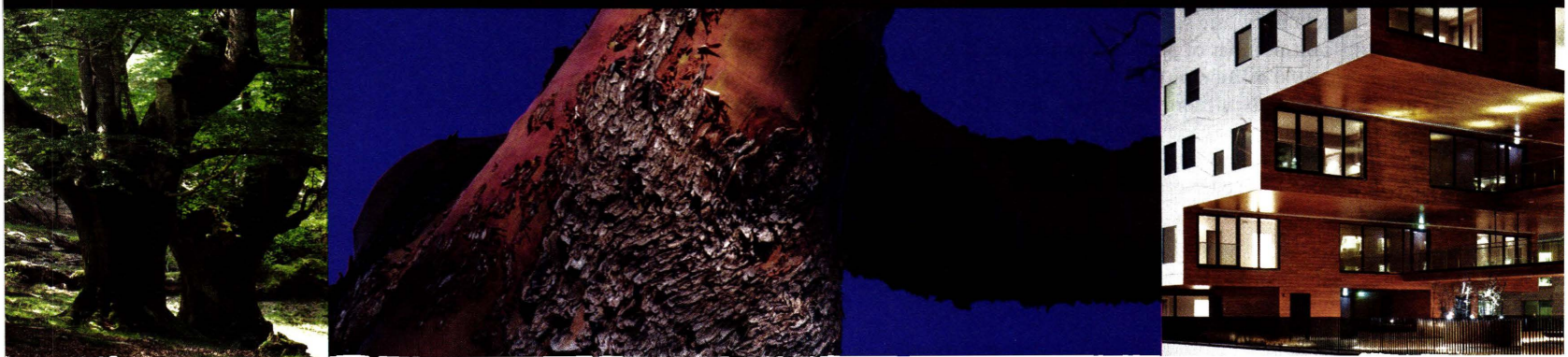
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ing. It would combine the informality of the technosphere of Silicon Valley and elsewhere (RECORD, September 2014, page 56) with the super-cool, lounge-lizard atmosphere of lobbies at the Standard or Ace hotels in New York and Los Angeles. To foster casual interaction among the McCann staff, the design team introduced living room– or café-like settings in double-height atriums created by cutting away ceilings between two different pairs of floors. In addition, the team banished private offices from the glazed perimeter walls, replacing them with long, white, partitionless desks and opening the views of Midtown to everyone. Instead of corner offices, variegated seating ensembles provide places for quiet conversation. Glass-enclosed conference rooms, meeting areas, and single-occupancy phone rooms (plus some private offices for executives) are arrayed around the elevator core.

A loftlike look with concrete-aggregate floors and exposed ceilings adds to the downtown aesthetic; Tom Dixon's large easy chairs, curved sofas, and copper lamps lend a certain outré quality. Features such as living-plant partitions or charred-wood walls let you know you are no longer in the corporate environment of ultra-restrained design. But to remind clients of the firm's history, graphic touches abound, such as old illustrations by Theodore Seuss Geisel, aka Dr. Seuss, who worked in the art department as a young man.

Since McCann renovated 107,500 square feet on five floors in 2013, it has found that its new interiors serve it well. The agency noted that the design, fostering collaboration, flexibility, and spontaneity, improved its business record in 2014: it won a significant number of pitches to potential clients, including Microsoft, and earned over $150 million in revenue, a 15 percent increase over the prior year's approximate $130 million. With new clients including Cigna, Jose Cuervo, and Lockheed Martin, the agency reports the number of employees also increased last year, by 21 percent. Now its New York office is expanding to two more floors. The firm has not lost its sense of history, but it is looking ahead–beyond *Mad Men*.

Suzanne Stephens



The open-plan offices featuring long benchlike desks allow daylight to permeate the floor (top). The design includes lounges, such as the one on the 23rd floor (above), where one can work on a laptop or solve problems with a pool cue.



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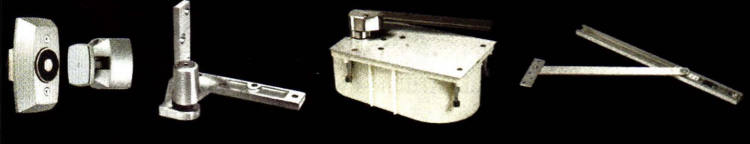
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PHOTOGRAPHY: © BRUCE T. MARTIN

District Hall
Hacin + Associates
Boston

BOSTON IS full of co-working centers, incubators, and labs, but most are housed within one of the city's 50 institutions of higher education, cloaked with exclusivity or even anonymity simply by association. Others are part of a particular company, perhaps relegated to the corner of a lobby or makeshift space.

District Hall, the result of a public-private partnership, belongs to everyone, and it's a smash hit, not just an idealistic showpiece for the city. The bright, airy 12,000-square-foot building on the South Boston waterfront, across from Diller, Scofidio + Renfro's Institute of Contemporary Art, is an innovation center unaffiliated with any corporation or academy. In 2014, it hosted 550 events—from hack-a-thons to investor office hours—attended by more than 30,000 people.

View additional images at architecturalrecord.com.







Envisioned as the beating heart of former mayor Thomas Menino's 1,000-acre Innovation District (RECORD, October 2014, page 104), District Hall was largely financed by Boston Global Investors (BGI) in partnership with Morgan Stanley, and is the first building in BGI's development of the surrounding Seaport Square. The one-story structure contains a restaurant and café, a flexible auditorium that holds 250 seats, a lounge, and a series of classrooms and "pods." Designed by Boston-based Hacin + Associates, the project is said to be the first freestanding city-sponsored innovation center of its kind in the country.

When the city decided that its Innovation District needed a hub, it asked the Cambridge Innovation Center (CIC) to run the program. This was a logical choice: CIC, founded in 1999, runs the world's largest start-up space, in Cambridge, Massachusetts, housing over 600 companies at a time and providing them with everything from office space to a copy machine. CIC agreed to take on District Hall, running it as a nonprofit because "it feels like a movement, not an asset," says CIC founder and CEO Timothy Rowe. "There probably isn't anyone involved in thinking about the future of the city who hasn't been to District Hall," he says. "It showed up and everyone said, 'Where were you all my life?'"

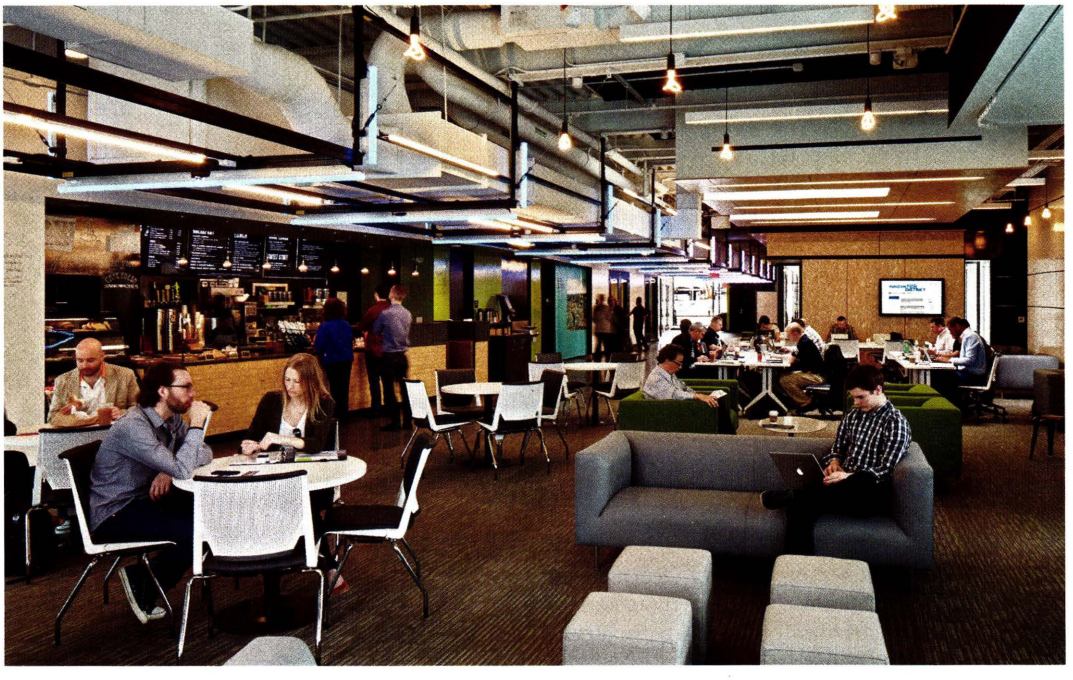
To accommodate a range of spaces and quickly changing needs, Hacin + Associates drew on its work designing restaurants, retail, and the Boston offices for the design consultancy IDEO. "We didn't come to it with preconceived notions of what it should be," says principal David Hacin.

District Hall's two volumes include an "abalone"-colored, angular shell (opposite) containing a glass-enclosed restaurant (above) and, to the west, a lower-profile series of corrugated metal boxes that house work spaces and lounges (top). The restaurant has a view of the Institute of Contemporary Art, Boston.

GOOD DESIGN IS good business



A programmable spine (left) connects the center's eastern and western volumes. Users can write on the erasable walls, and the light fixtures can change colors for different events. The fixtures are connected to a structural armature that can support hanging video screens or other elements. A café and lounge are open to all (below).



Drawing on the historic harbor site, where cargo ships were met by trains to disperse goods throughout the country, "I was sort of taken by that idea that this was a threshold," says Hacin. "Ideas would be born here that would be shared across the world." Hacin designed District Hall as two roughly rectangular volumes. The eastern volume contains the auditorium, restaurant, and café in its figural, silver-toned, corrugated-metal and glass shed. In a series of boxcar-like structures, the western volume houses the pods, workspaces, and lounge. An angular corridor connects the two and can be programmed for exhibitions or events. Many of the walls of the center are covered in a whiteboard surface for capturing inspiration on the fly.

As a nonprofit, District Hall makes its spaces available free or at a reduced cost for many organizations and events. In 2014, it gave away $1 million's worth of space rentals, or 71 percent of all its rentals, as in-kind support to the local innovation community. "We want to make people understand that their futures may lie in building new businesses, and that, through that, you can start to shift the DNA of the city," says Rowe. *Laura Raskin*

credits

ARCHITECT: Hacin + Associates

ENGINEERS: McNamara/Salvia (structural); Nitsch Engineering (civil); R.G. Vanderweil Engineers (m/e/p); Haley & Aldrich (geotechnical)

CONSULTANTS: Reed Hilderbrand (landscape); Philips Color Kinetic (ambient lighting); Acentech (acoustical)

GENERAL CONTRACTOR: John Moriarty & Associates

CLIENT: Boston Global Ventures

SIZE: 12,000 square feet

CONSTRUCTION COST: $7 million

COMPLETION DATE: October 2013

SOURCES

METAL PANELS: Morin Corporation

CURTAIN WALL: Kawneer

SOLID SURFACING: Dupont

DRY-ERASE WALL SURFACING: IdeaPaint

FURNITURE: Haworth



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Macy's Herald Square
Various Design Teams
New York City

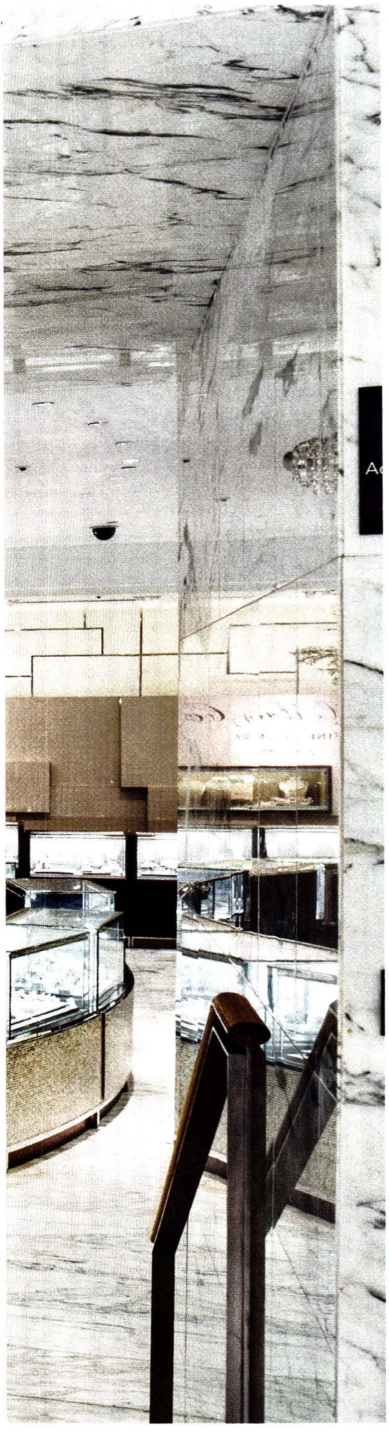
YOU DON'T need retail savvy to sense the success of the two-year-old women's shoe department on the second floor of Macy's Herald Square. A consolidation of smaller, obscure shops scattered around the building, the 39,000-square-foot sales area offers an array of footwear from luxury to budget, arranged by type or brand in individual boutiques or open "rooms." It also features a café, with newly exposed windows overlooking Broadway.

This comfortably urbane shoe salon was one of the first phases of a $400 million storewide overhaul that began in 2011 and is due to wrap up later this year. Designed by suburban-Chicago-based Charles Sparks + Company, it embodies the spirit and commitment with which parent company Macy's Inc. is striving to improve the customer experience and revitalize its historic flagship.

A succession of early 20th-century buildings—a 1902 Beaux

View additional images at architecturalrecord.com.

PHOTOGRAPHY: © PAUL WARCHOL





Studio V reimagined the original 1902 building's hypostyle retail hall. Existing portals between it and the adjoining annex (opposite) were made wider and faced with the Calacatta Tucci marble that also surfaces the floor in Fine Jewelry and resembles existing stone at the entrance. The open main selling floor is flanked by curved stairs (left) that lead up to a sculptural mezzanine around it, while fluted columns and high coffered ceilings hide mechanical and technology systems.

Arts structure by De Lemos & Cordes at Broadway and 34th Street, and three increasingly Moderne additions by Robert Kohn completed in 1924, 1928, and 1931—Macy's Herald Square occupies an entire city block. At more than 1 million square feet of retail space, it is one of the largest department stores in the world and nearly as big a tourist attraction as its neighbor the Empire State Building.

The Herald Square store is "the face of Macy's," says senior vice president of store design Tom Herndon. This is why the executive management team made a strategic decision to renovate and reimagine the entire building, he adds. During

credits

ARCHITECTS: Studio V Architecture – Jay Valgora, principal; Charles Sparks + Company – Charles Sparks, principal; Kevin Kennon Architects – Kevin Kennon, principal; BHDP Architecture – Andrew McQuilkin, retail leader

ARCHITECT OF RECORD: Highland Associates

ENGINEERS: Thornton Tomasetti (structural); Syska Hennessy Group (m/e/p)

CONSULTANTS: Lighting Workshop (lighting design)

CLIENT: Macy's Inc.

SIZE: approximately 1.1 million square feet

PROJECT COST: $400 million

COMPLETION DATE: November 2015 (projected)

SOURCES

BRONZE DOORS: Dawson (balanced); Crane (revolving); Delform Studios (elevator access)

LIGHTING: Amerlux, 3G, Juno, Indy, RSA Lighting, Feelux, Philips

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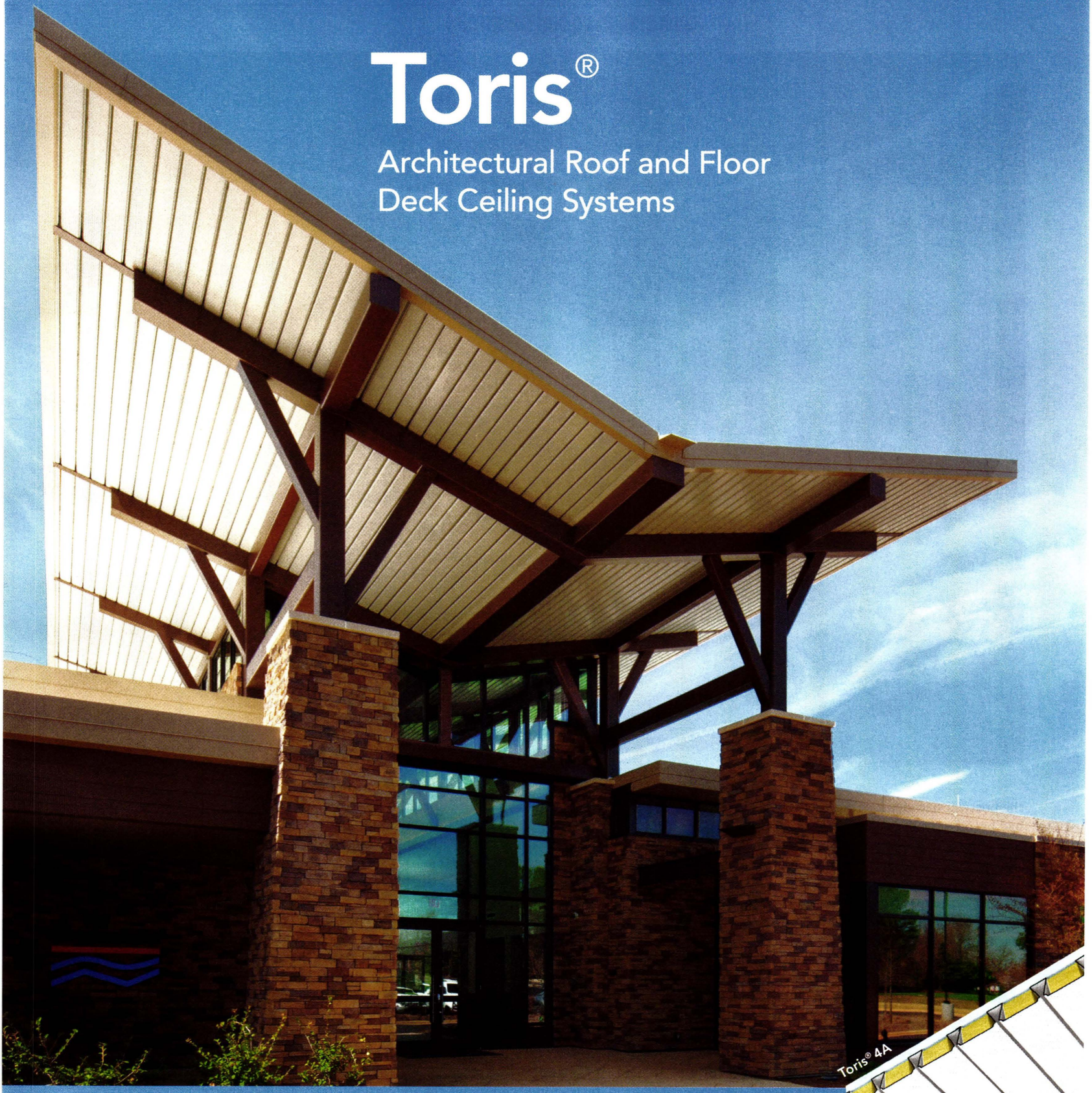
New venues and services are attracting a range of customers—local and visiting—into the store. A bridal jewelry shop (top) adjacent to Fine Jewelry on the main floor offers personalized service in elegant surroundings; Stella 34 (right), a Michelin Guide–rated trattoria with polished decor and views of the Empire State Building, replaces a sixth-floor stock room in which the windows had been blocked.



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CIRCLE 93

Renfroe Office Building, Hoover, Alabama Architect: TRO Jung|Brannen, Birmingham, Alabama

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The women's shoe department by Charles Sparks + Company is one of the largest in the world, with designer boutiques and roomlike areas that focus on individual brands or style categories (above). A café with views of Broadway (behind the curved wall) is a gracious addition, serving champagne and chocolate as well as specialty coffees.

PHOTOGRAPHY: © CHARLIE MAYER

the postwar decades it suffered misguided remodelings and had become tired, difficult to traverse, and largely neglected above the first few levels, where tourists congregate.

The goal was to reclaim as much of the existing architecture as possible and at the same time bring the store into the 21st century with state-of-the-art technology, improved circulation, and a timeless scheme. To do this without disrupting business on the 11 retail floors, Herndon tapped the expertise of several firms. In addition to Sparks, who also devised a men's store-within-a-store on seven levels of the building's west side, key players include two local firms, Studio V and Kevin Kennon Architects, and BHDP, a Cincinatti-based practice that recently completed a much refreshed women's fashion area on the fourth floor.

Studio V developed a master plan with the in-store design team, logically layering the selling floors, restoring all of the existing wood escalators, and adding vertical transportation that leads customers to new target areas like the shoe floor, a newly restored mezzanine, and Stella 34, a destination restaurant the firm created on the sixth floor (RECORD, July 2013, page 74). Led by principal Jay Valgora, Studio V reinstated the elegance of the 1902 building's ground-floor retail hall, laying the foundation for much of the design language used throughout the store.

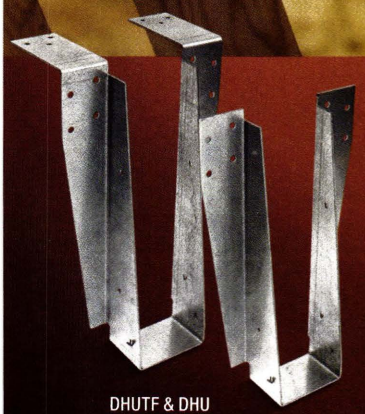
Kennon, responsible for refurbishing the exterior, worked with the various design teams to reveal (or recreate) blocked windows, introducing daylight and views into the mezzanine and ground floor along 34th Street as well as the café, Stella 34, and designer shops on the Broadway facade. He reworked existing lobbies to accommodate cutting-edge LED signage and revived the original main entry on 34th Street, the Memorial Entrance, so called for its plaques honoring Macy's employees lost during World War I, along with co-owner Isador Strauss and his wife, Ida, who died on the *Titanic*.

The nearly complete restoration is clean and contemporary, yet maintains the building's bones and legacy. Moreover, by reconfiguring mechanicals and stock rooms, the architects gained ceiling height and an additional 100,000 square feet of selling area. Though the company doesn't share sales figures, Herndon says that customers are responding in an extremely positive way—and with their pocketbooks. And it's contagious, he notes: "Every time we open up a new area, there is a halo effect on the areas that have already opened."

Linda C. Lentz

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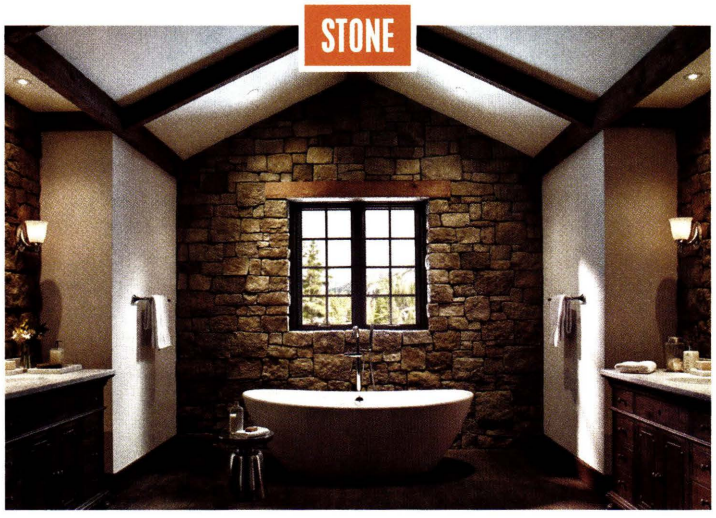
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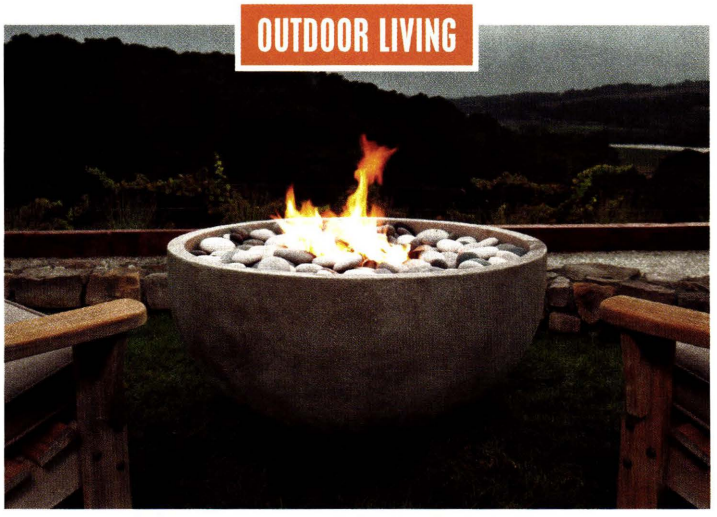
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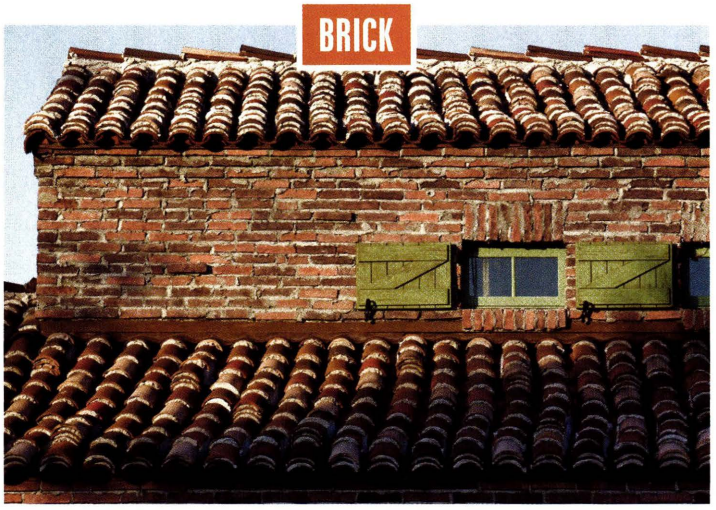
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Paris

This property occupies a former office building (top, left) wrapped with a sleeve of lacquered gold panels and LED fins by Studios d'Architecture Ory & Associés. The design team reclaimed some of the building's underground parking garage to create a lower-level bar à la Paris Metro (top, right). The café mimics the city's social scene (above).

Generator DesignAgency Worldwide

FOR A YOUTHFUL rite of passage or a midlife meander, the hostel remains a staple of low-budget travel. The typical hostel's no-frills barracks-like interiors keep costs down but lack a sense of the city beyond—and fun. London-based, American entrepreneur and veteran traveler Josh Wyatt is harnessing design to create a new hospitality model for his Generator Hostels—shaking up the industry by doing both.

Generator took root in 2007, when an investment company, Patron Capital, for which Wyatt is Hotel & Leisure senior advisor, bought a pair of hostels in London and on Berlin's east side. They were both typical of what budget travel offered at the time: bleakly evocative of a dilapidated student dormitory, with a grotty main-floor pub and harshly utilitarian character. Wyatt began thinking of how to rejuvenate them to address the market more strategically. His solution: invest in a design concept that today's free-spirited travelers want (with social spaces for drinking, dining, and conversation), and leave out what they don't need (fine linens and detailing, excess furniture, even TVs).

Wyatt met Anwar Mekhayech, co-principal of Toronto-based DesignAgency (DA), in 2008, and one year later asked him to be Generator's creative director, retaining DA as its global design partner. The team developed a design manual, forming the DNA of what would become the Generator brand. Working with local architects and artists over the following three years, the team bought and renovated existing buildings in Dublin, Hamburg, and Copenhagen. Then, in 2012, Generator brought in a London-based graphic-design firm to revamp its visual identity while revving up the design quotient of the hostels themselves—with a plan to continue adapting new properties in centrally located older structures. Generator Barcelona opened the next year with an added hotel-like component of private rooms. Its dramatic curvilinear staircase and dining-room lantern installation by local artist Julie Plottier created industry buzz. The rebranding helped Generator increase its number of guests by 33 percent, with 5,200 beds across Europe in 2013 and 6,080 this year, with similar hostel/hotel destinations in Berlin's Mitte district, Venice, and, most recently, Paris. When two more open in Rome and Amsterdam next

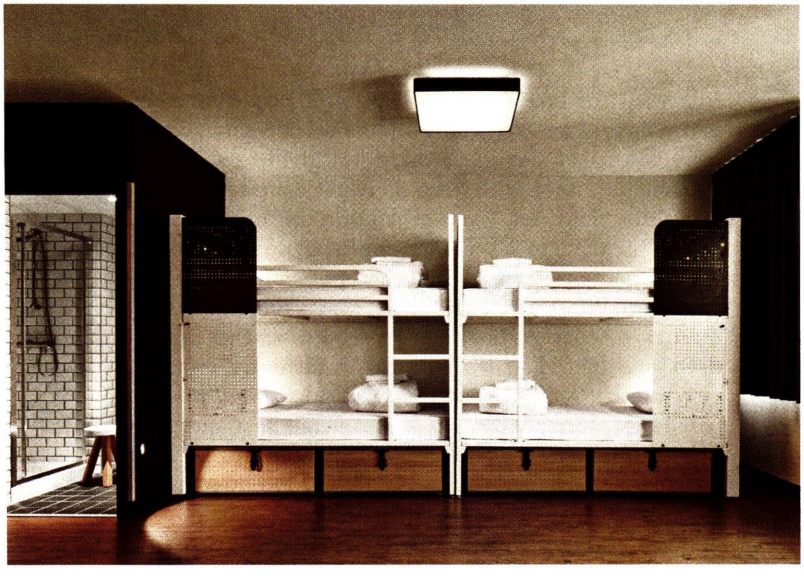
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GOOD DESIGN IS **good business**

Paris

The upper-level lounge takes its cues from the cultural diversity of the 10th Arrondissement (right). Shared rooms are simple and functional, with en-suite bathrooms, personal lights, and Wi-Fi (bottom, left). Private twin suites (bottom, right) feature a trompe l'oeil wallcovering of books by Minehart, a nod to the bookstalls lining the Seine.







year, capacity will rise to 6,890 beds in 1,656 rooms.

Generator Paris is the largest property to date, with 916 beds in a transformed 1985 office building in the city's 10th Arrondissement. Its interiors by DA are playful nods to the local culture, such as a French-bistro-meets-Ikea dining room. Though more sumptuous than the typical Parisian hostel, it has accommodations for as little as $27 a night.

The key to the pricing structure and communal spirit is Generator's focus on areas of social interaction, explains Mekhayech. Public spaces are lavishly furnished (by hostel standards) and tailored to each locale. Most have "edgy" features like exposed columns and ceilings, as well as social amenities, from dining halls to discotheques. "It's important

credits

DESIGN TEAM: DesignAgency – Anwar Mekhayech, co-principal and creative director at Generator; Matt Davis, Allen Chan, co-principals

ARCHITECTS OF RECORD: **Hamburg** – Coido; **Barcelona** – Ibinser; **Venice** – Progetto CMR; **Berlin Mitte** – WAF Architekten; **London** – ORBIT; **Paris** – Studios d'Architecture Ory & Associés

CONSULTANTS: **Hamburg** – Wandadel (graphics); **Berlin Mitte** – Ester Bruzkus Architekten (interior design); **Venice** – EC Harris (project management); **London** – FD Creative (lighting design); **Paris** – artec3 studio (lighting design)

CLIENT: Generator

COMPLETION DATE: **Dublin** – July 2011; **Hamburg** – January 2012; **Copenhagen** – June 2012; **Barcelona** – May 2013; **Venice** – September 2013; **Berlin Mitte** – October 2013; **London** – March 2014; **Paris** – February 2015

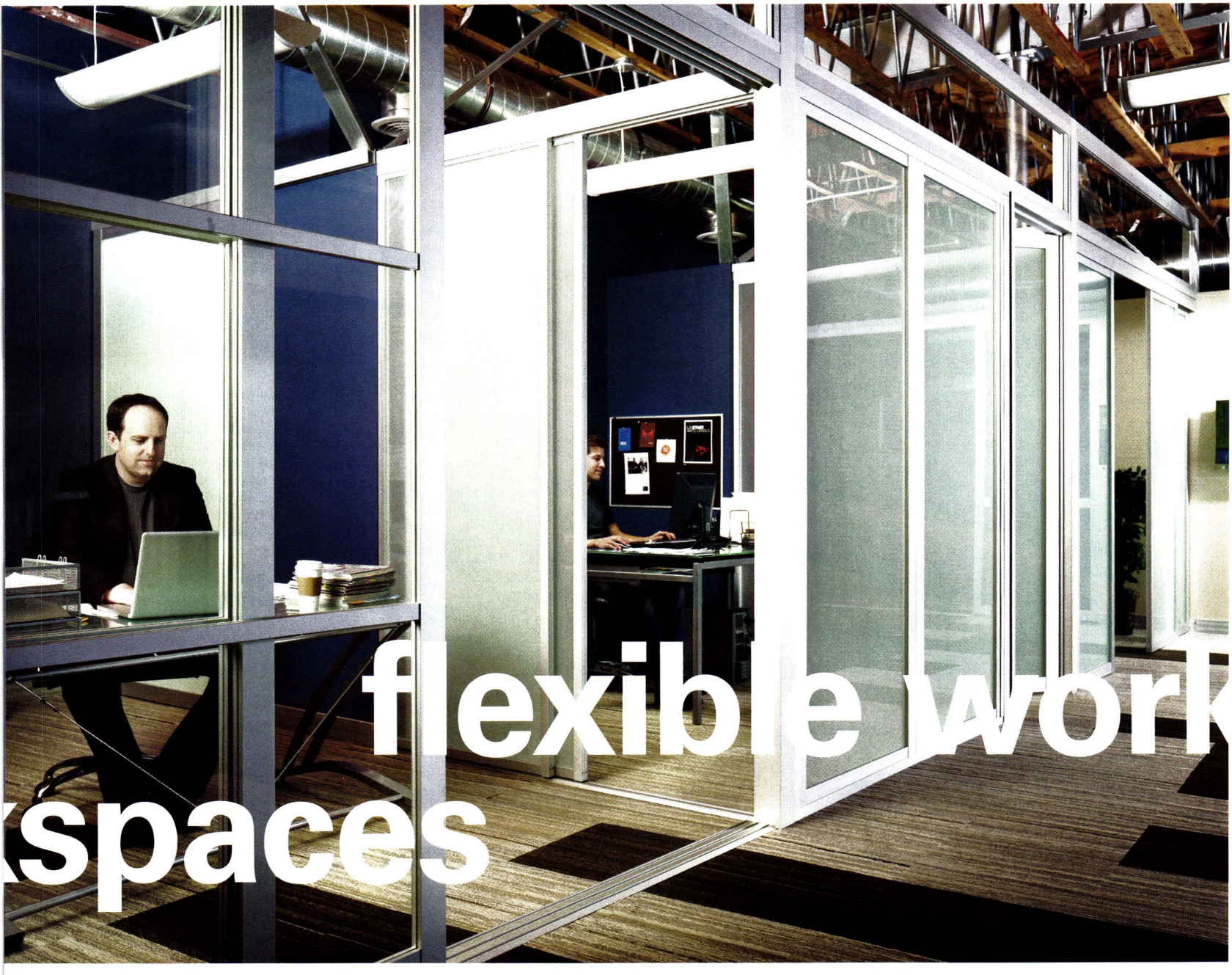
SOURCES

FACADE: **Paris** – Reynobond (metal panels); LED3 (lighting); Wicona (curtain wall/entrance)

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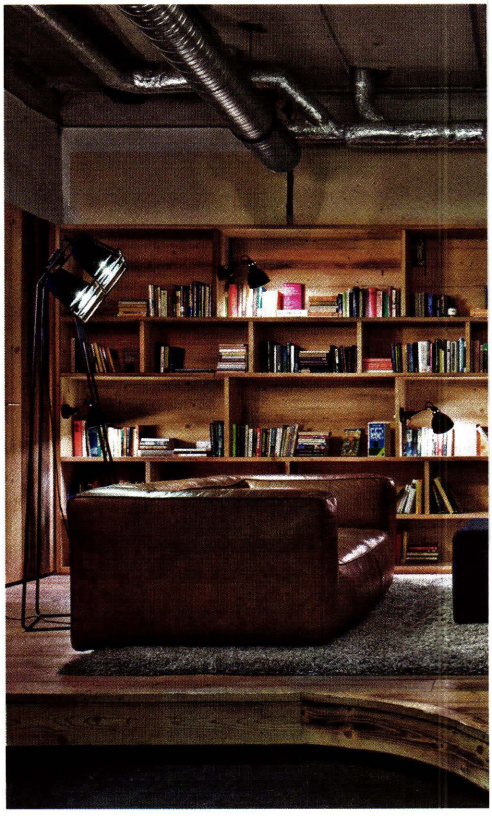
CIRCLE 28

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London Conveniently situated near the city's main railway stations for domestic and international travel, this former police station in King's Cross was completely rehabilitated in 2014. Iconic Brit references, such as a communal farm table in a raised plaid dining cove (above), provide context, while design elements like Tom Dixon's Fluoro stools and Castor Design pendants provide bright, contemporary accents.

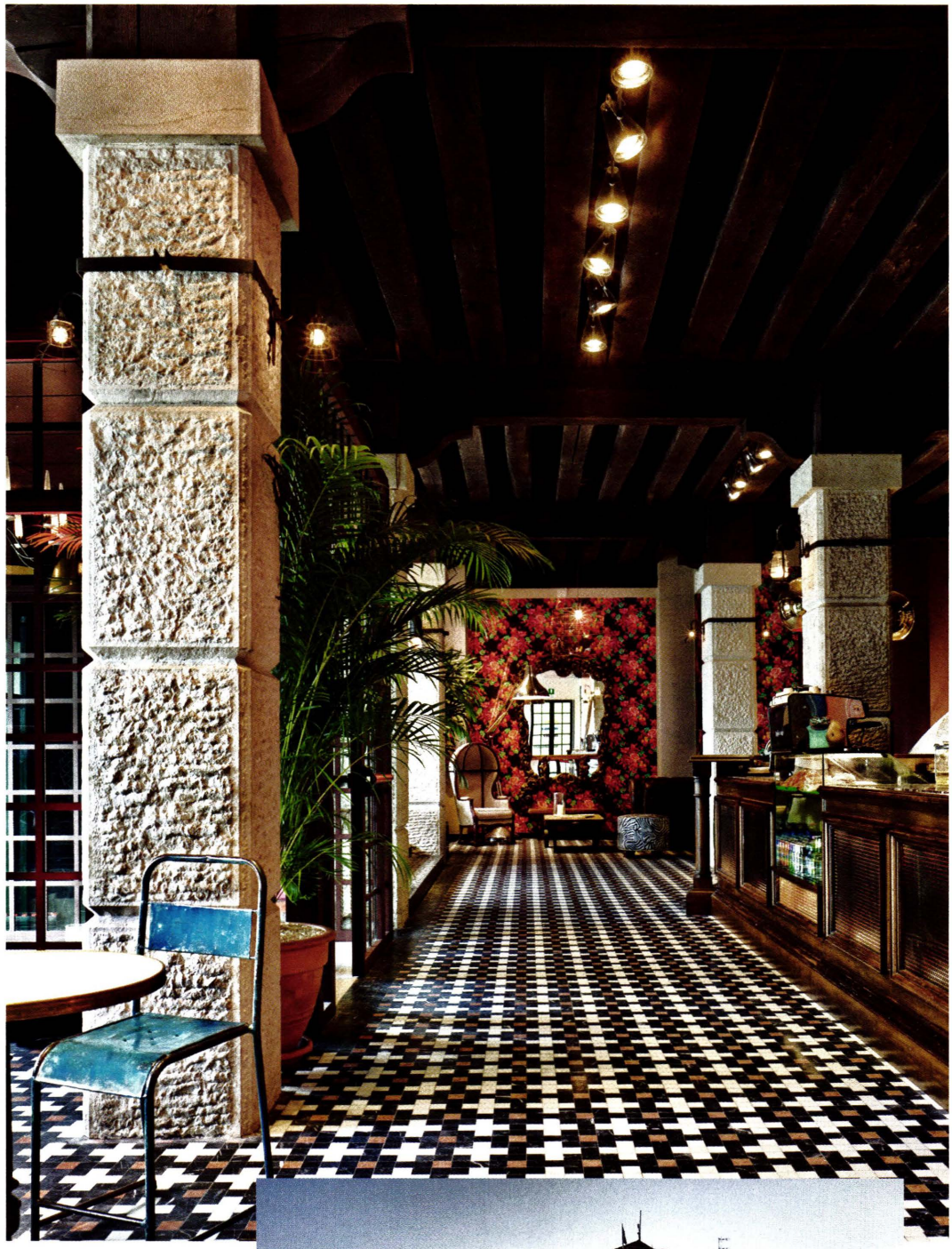


Barcelona The design team refurbished a 1963 office building for Generator's first hostel/hotel, located in the city's Gràcia district. A dazzling installation of more than 300 lanterns by local artist Julie Plottier adorns the lobby lounge (above) to set the stage for a party atmosphere.

that we have that sense of fun," says Mekhayech. Shared bedrooms boast a cleanly minimalist design that Generator keeps standard from place to place. Rooms, whether two- or eight-bed, come with en-suite baths. But certain hotel staples are missing. "When you stay somewhere for just a few days," asks Wyatt, "do you really need to unpack all your belongings into a closet or dresser?" On the other hand, the sleeping areas do have Wi-Fi and USB ports—the new staples of travel.

Next, the North American hostel industry may get the same transformation. The Generator team is currently exploring sites in Los Angeles, Miami, New York, Washington, D.C., and Toronto. Says Mekhayech: "We want to get to the point where you come to a new city, you automatically ask, where's the Generator?" *Adele Weder*

Venice Built in the 1850s as a granary warehouse and converted into the city's only hostel 100 years later, the waterfront property on the Giudecca (bottom, right) maintains its original masonry facade. Inside (right), the designers integrated an aura evocative of its history with a playful mix of Venetian craft and culture, synonymous with the Generator brand but also strongly stressing the identity of its famous locale.





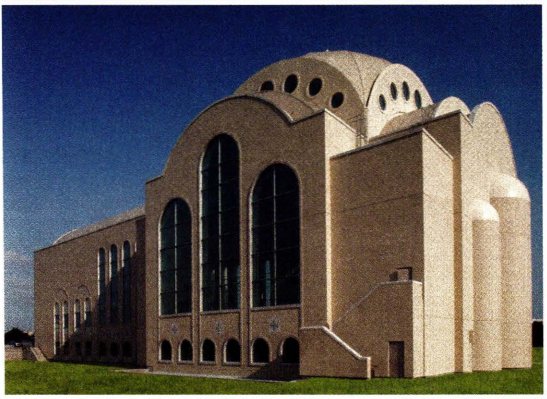
Berlin Local firm WAF Architekten collaborated with Generator creative director Anwar Mekhayech of DesignAgency to transform two buildings—one residential, the other commerical—in the city's Mitte district. Their interiors have a hip, urban vibe, with exposed ceilings and cozy areas, like a comfortable library (below), furnished with a curated selection of books to create a homey feeling.



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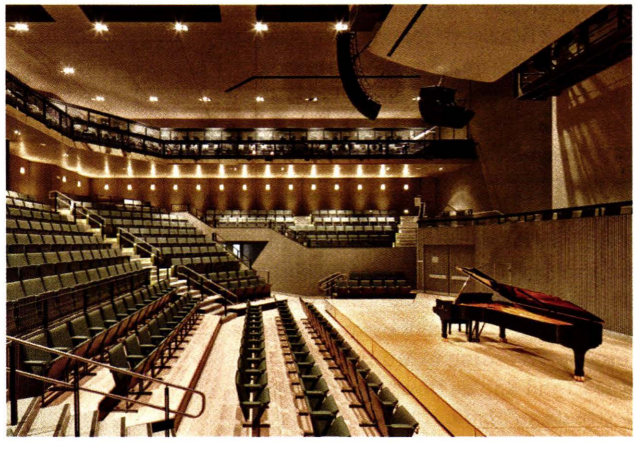


SFJAZZ Center
Mark Cavagnero Associates
San Francisco

The facade's glass panels have slightly different spacing between levels to create visual syncopation (above). In the lobby, a floating stair features titanium railings (top, right), while steeply raked seating imparts a casual conviviality to the auditorium (below).

JAZZ CLUBS are known for their cozy intimacy, while concert halls convey gravitas. For the first permanent home of SFJAZZ in its 35-year history, organization founder and executive artistic director Randall Klein sought to bridge that dichotomy. "You get wonderful experiences in 'found' houses that are not intended to be performance spaces, but we also wanted the focus of a concert hall," he says.

Klein approached San Francisco–based Mark Cavagnero Associates in 2004 to figure out this combination; it would take almost a decade and an anonymous gift of $25 million to realize the $64 million project (RECORD, May 2013, page 94). Today, the only American building devoted to jazz fully embodies the genre. Like a bossa nova, the exterior features a rhythmic facade layered atop rigorous structure. And, just as a great performance brings listeners together, the 700-seat concert venue fosters community by arranging steeply raked seating around a thrust stage. "When you're there, you don't see a rear wall—you see people's faces—and no one is more than 45 feet from the stage," Cavagnero says of this auditorium. "It highlights the collective experience."



Inside the hall, board-formed-concrete walls possess an elegance. They are also covertly practical, by providing acoustic isolation and buttressing the delicate surrounding spaces. "The concrete box carries all shear forces, so we could use lightweight steel construction with 12-inch-diameter columns," Cavagnero explains. Consequently, glass walls create the perception that the sidewalk dissolves into the ground-floor lobby, and a similarly transparent 80-seat performance room makes its energy visible to passersby. SFJAZZ hoped to attract new audiences with these gestures.

It worked. According to Klein, the 36,500-square-foot building has met or exceeded all of its projected benchmarks for success. In the two years since the new cultural institution opened its doors, membership has nearly quadrupled, from 3,000 to 11,000. Performances have tripled to 300 a year, and newcomers make up about half of attendees at each show. "The team nailed it," says Klein. "The theater is set up so that the audience can really be with the performers, and vice versa—and that transcendent moment can happen more often." *Lydia Lee*

credits

ARCHITECT: Mark Cavagnero Associates – Mark Cavagnero, design principal; Kang Kiang, principal in charge; Goetz Frank, project architect

ENGINEERS: Forell/Elsesser Engineers (structural); WSP Group (m/e/p)

CONSULTANTS: Auerbach Pollock Friedlander (theater); SIA Acoustics (acoustical); Hathaway Dinwiddie Construction (general contractor)

CLIENT: SFJAZZ

SIZE: 36,500 square feet

CONSTRUCTION COST: $33 million

COMPLETION DATE: January 2013

SOURCES

FACADE: Zetian (curtain wall)

RAINSCREEN: Swiss Pearl

ARCHITECTURAL CONCRETE: Sealed with Protectosil Antigraffiti Chem Trete BSm 400

PHOTOGRAPHY: © KYLE JEFFERS (TOP, LEFT AND TOP, RIGHT); © TIM GRIFFITH (BOTTOM)

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Grand Rapids Downtown Market
Hugh A. Boyd Architects
Grand Rapids, Michigan

THE GRAND RAPIDS Downtown Market is a fantasyland of eats: the 132,000-square-foot three-level building offers bread from a wood-fired oven, charcuterie sourced from nearby farms, and other locavore delights. It is also a dream come true from the perspective of urban planning and local business, since its success indicates the community can achieve such goals as supporting local farmers and revitalizing a neglected industrial area at one stroke. During its first year, the market generated 215 new jobs and $5 million in retail sales and spurred conversion of two neighboring warehouses into mixed-use projects with 170 housing units.

Montclair, New Jersey-based architect Hugh Boyd has made a specialty of farmers' markets and indoor market halls. Of his 50 similar projects over 30 years, the $32 million Grand Rapids Downtown Market is the largest and most ambitious. "The diversity of the program is unique, and it was a challenge to get the entire program to work," he says of the undertaking. Keeping budget in mind, Boyd conceived a warehouse of steel-and-metal decking, with wood accents whose warmth and craftsmanship underscore the artisanal nature of the businesses within.

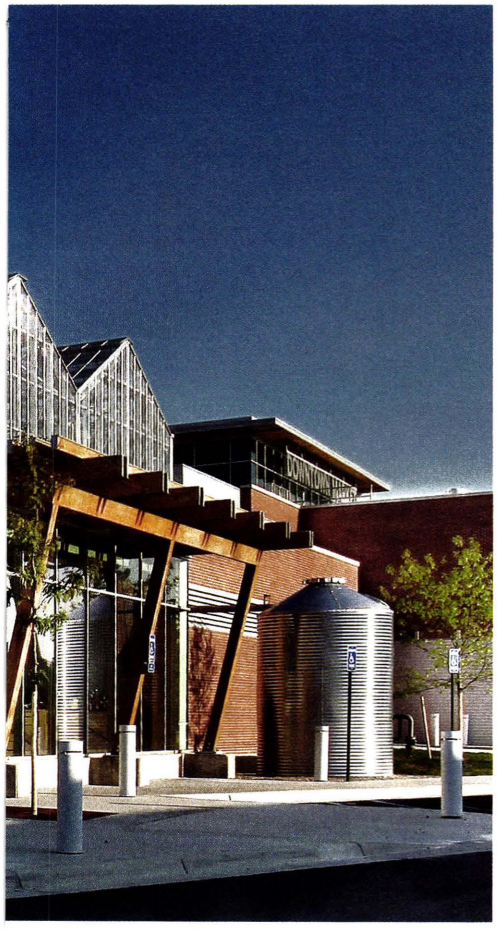
Located in a somewhat blighted neighborhood south of downtown, the building commands attention with a rooftop greenhouse. Illuminated at night, the volume is visible from US Highway 131, a major link between Grand Rapids and Kalamazoo, Michigan. In a similar vein, the street-level market hall allows hungry shoppers to glimpse producers like the bakers at Field & Fire Bakery turning out loaves of bread behind a glass wall. The ground floor's interior features a grand stair leading to the greenhouse (which doubles as event space), as well as a banquet room, and a terrace overlooking the city. This upper level also includes a kitchen incubator for new businesses plus a teaching kitchen that accommodates kids, with custom adjustable-height stations powered by hydraulics, while a smaller third floor provides office space for culinary start-ups. A traditional open-air farmers' market is housed in a long shed adjacent to the LEED Gold–certified building.

The Grand Rapids Downtown Market is set up as a community nonprofit that channels any net profits to its own Downtown Market Education Foundation. In just its second year of operation, the venture is doing well enough to finance the foundation. Among various income streams, event rentals have been a surprise hit, with sales reaching nearly $200,000 in 2014. Adding to the momentum, the city has built new sidewalks that allow pedestrians to access the market from downtown. According to Mimi Fritz, president and CEO of the Grand Rapids Downtown Market, "We are becoming a destination." *Lydia Lee*

The LEED Gold–certified Grand Rapids Downtown Market (above) employs a geothermal system to refrigerate food storage and heat its greenhouse. Event spaces (opposite, top) look down into the market activity below. Living walls (opposite, bottom) incorporate herbs and other edibles into two sides of the building.

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PHOTOGRAPH © JAMES RUEB





credits

ARCHITECT: Hugh A. Boyd Architects

ARCHITECT OF RECORD: Progressive A/E

ENGINEERS: Fishbeck, Thompson, Carr & Huber (civil, structural, m/e/p)

CONSULTANTS: The Lighting Practice (lighting); JRA Food Service Design & Engineering (food service); Rough Brother (greenhouse); LiveWall (green roof and living walls); Pioneer Construction (construction manager)

CLIENT: Grand Action

SIZE: 132,000 square feet

CONSTRUCTION COST: $21.6 million

PROJECT COST: $32 million

COMPLETION DATE: May 2013

SOURCES

FACADE: Beldon (masonry); Kawneer (curtain wall); Dupont (moisture barrier)

METAL PANELS: Firestone

FENESTRATION: Guardian (glass); Kawneer (entrances); NanaWall (sliding doors)

LIGHTING: Lightolier, Linear Lighting, Vode, Peerless (interior ambient); Pathway, RSA Lighting (downlights)



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JW3
Lifschutz Davidson Sandilands
London

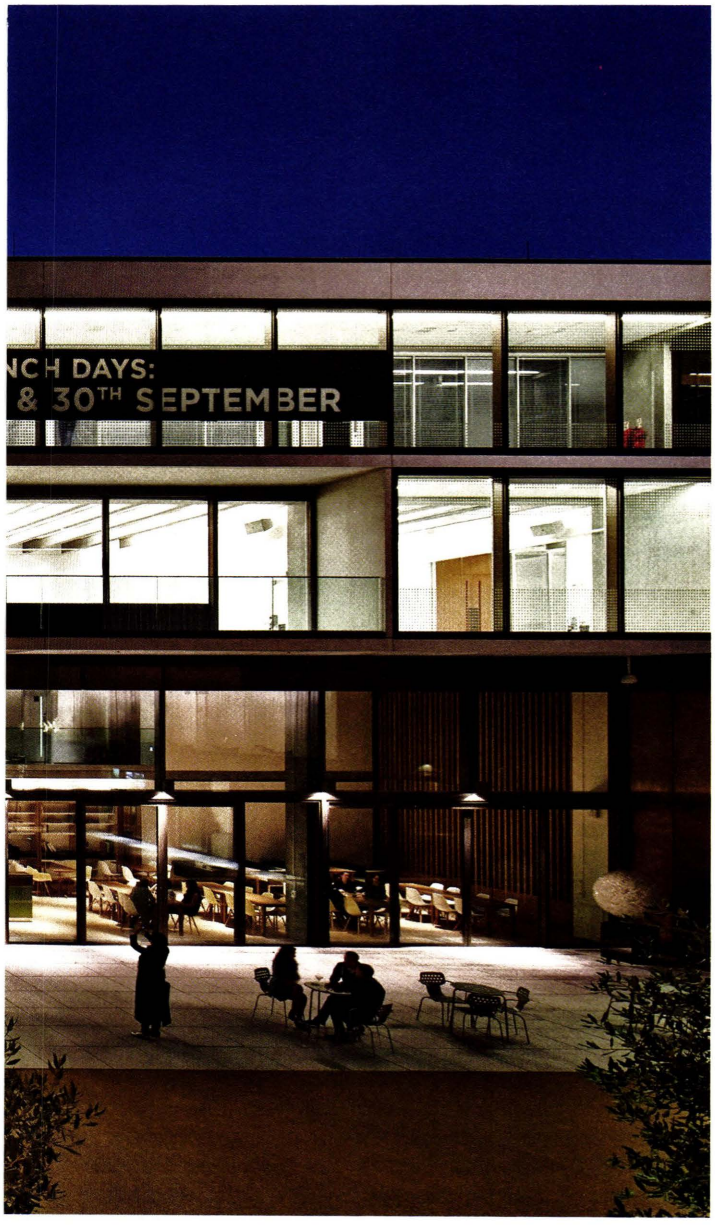
LONDON'S JEWISH community is fairly large, and long established, but until the opening of JW3 in late 2013 it lacked a high-profile venue for the enjoyment and celebration of Jewish culture. The nascent institution—whose name is a play on its postal code (NW3)—is housed in an elegant, welcoming pavilion that has quickly become a popular destination for Jews and non-Jews alike, surpassing projections by attracting 245,000 visitors to 4,000 events in its first year.

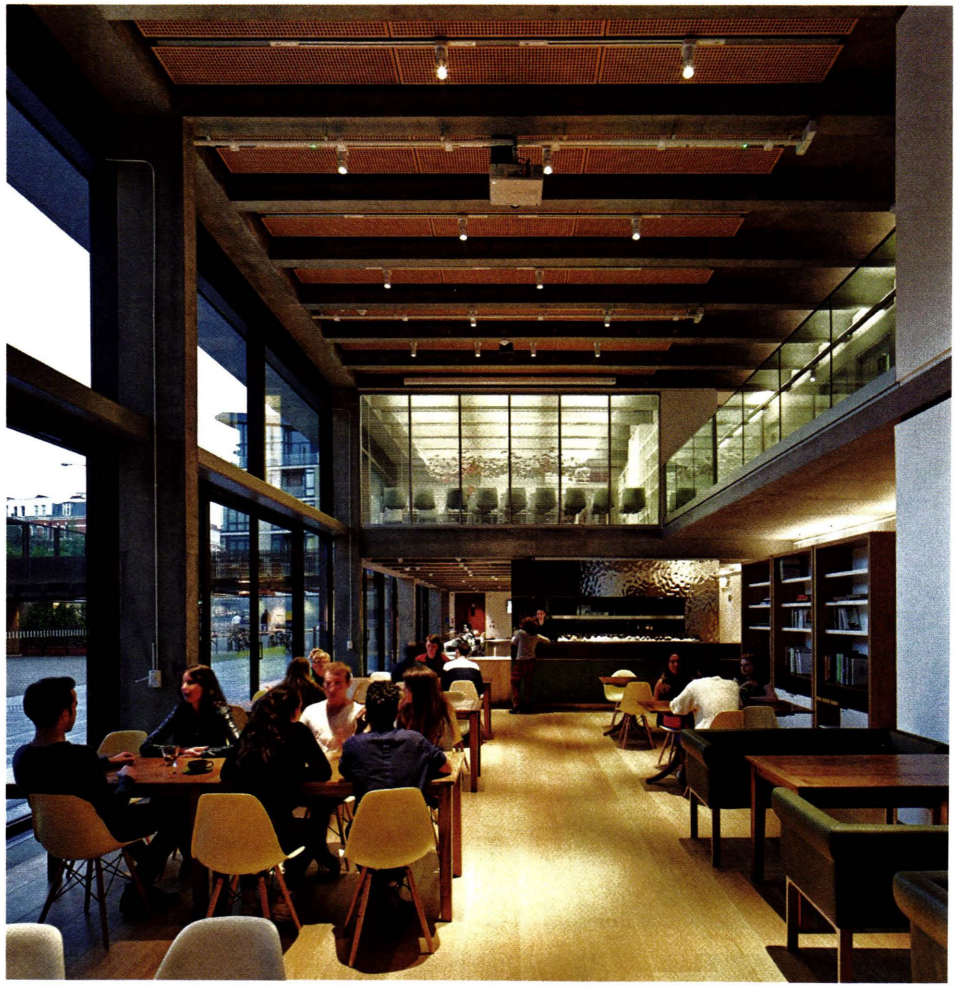
JW3's principal promoter, philanthropist Vivien Duffield, was inspired by the American Jewish Community Center (JCC) movement. She acquired a half-acre corner site on a busy street in northwest London and sought the opinion of several architects on the character of the spaces and mix of uses the institution might have. The successful candidate, Lifschutz Davidson Sandilands, advised against the emphasis on sports often found in JCCs, which would have high ongoing costs and niche appeal. "We didn't want to make a sweaty box for boys," says project director Alex Lifschutz. Instead, JW3 appeals to the whole community, with a cinema, restaurant, child-care center, and 268-seat auditorium, as well as multipurpose rooms that support a wide variety of social, educational, and recreational activities. The building is "a machine for making culture" as well as a place to consume it, says Lifschutz.

The architects make efficient use of the space while communicating JW3's open, relaxed ethos. Facilities are grouped in a four-story pavilion pushed to the back of the plot. A bridge from the sidewalk to the main entrance spans a sunken piazza that accommodates weddings and an ice rink. In the summer, it hosts outdoor screenings, with movies projected onto the facade of an adjacent apartment building

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PHOTOGRAPHY: © HUFTON + CROW







While London's older Jewish institutions have a low public profile, JW3's fully glazed facade communicates its activities to the outside world (far left). Visibility within the building was also important, both to aid navigation and to create commercial opportunities. The first-floor entrance foyer overlooks the double-height restaurant (above), which itself looks out onto the piazza (left).

credits

ARCHITECT: Lifschutz Davidson Sandilands – Alex Lifschutz, Paul Sandilands, directors; Douglas Inglis, associate director; Martin Kiefer, project director

ENGINEERS: AKT II (structural); Norman Disney & Young (mechanical)

CONSULTANTS: Churchman Landscape Architects (landscape); Speirs + Major (lighting); Cole Jarman (acoustical)

CLIENT: JCC Ventures

SIZE: 53,500 square feet

COST: $28.3 million

COMPLETION DATE: September 2013

SOURCES

WINDOWS: Schüco

CURTAIN WALL: KME

LIGHTING: Zumtobel, Lucent, Designed Architectural Lighting, Wila Lighting, Iguzzini

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With retractable bleacher seating, an oak-lined hall is one of several rooms designed to accommodate diverse uses, from concerts to weddings. The column-free double-height space was created by hanging the floor above it from the structural frame at roof level (left). The frame also partially encloses a terrace for the fourth-floor day-care center (bottom).



whose development partly financed the $20 million project.

In piecing together this complex jigsaw, the architect also overcame challenging environmental conditions. Though 30 million cars stream past the site every year, pulling the building back from the street meant that it could be naturally ventilated anyway. The piazza doubles as a discreet security cordon, which allows the transparent facade its open expression.

Lifschutz champions "long-life, loose-fit" buildings whose construction enables adaptation to different uses over time. At JW3, an exposed concrete frame and simple gypsum and glass partitions anticipate reconfiguration to meet changing demands. The robust materials reflect the architect's conception of the Center as an active, informal space. "They will probably knock the hell out of it," Lifschutz predicted at the time of the opening, "and that's a good thing."

Externally, perforated bronze cladding and decorative brickwork elevate the building above the merely utilitarian, and careful detailing of the perimeter fence and landscaping enhance its context—"greening the desert of the Finchley Road," as Lifschutz puts it. But JW3's aesthetic qualities represent just one part of the architect's contributions. Equally important to the project's success was the client's willingness to back its architect's judgment even where some risk was entailed—for example, accepting his advice that they could save on the cost of providing a parking facility by relying on visitors to use public transportation. That faith has been amply rewarded in a popular building whose form and content are in perfect accord. *Chris Foges*

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LOCATION: Huntsville, Alabama

ARCHITECT: Gresham, Smith and Partners

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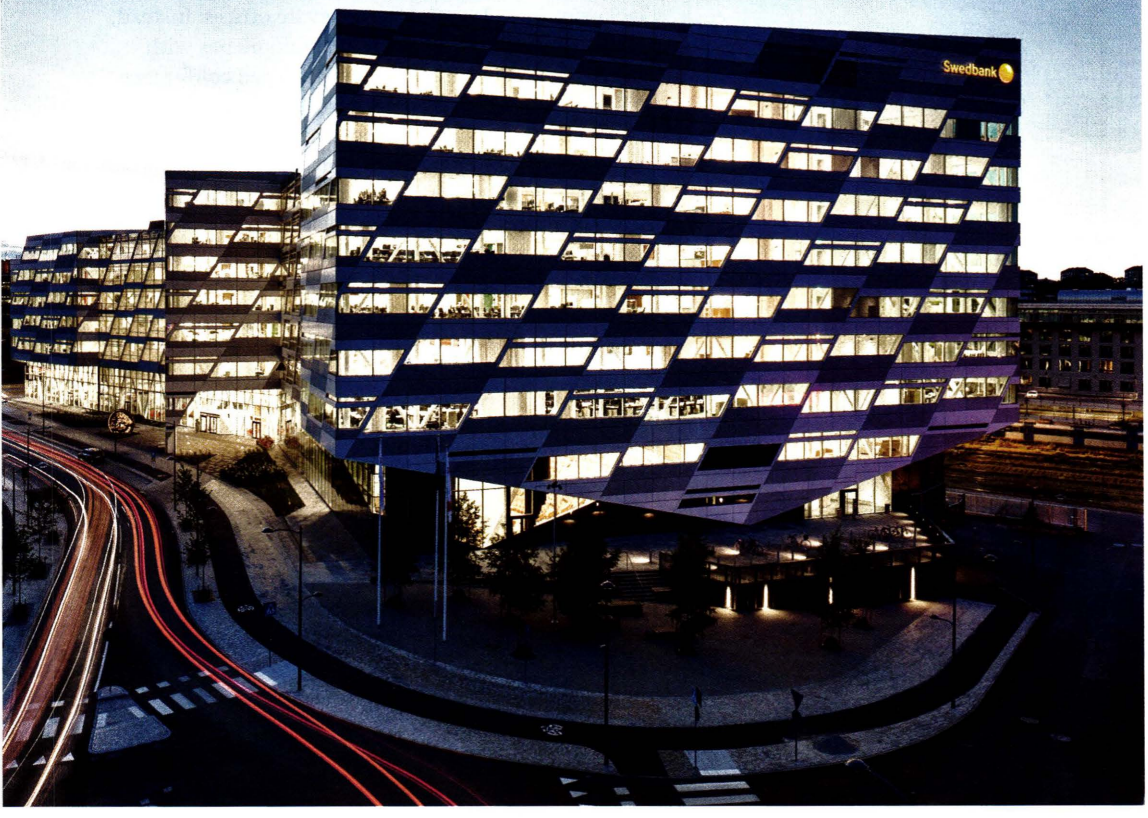
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credits

ARCHITECT: 3XN – Kim Herforth Nielsen, Jeanette Hansen, Audun Opdal, Marie Hesseldahl Larsen, Anders Wadman

ASSOCIATE ARCHITECT: BSK Arkitekter

INTERIORS: Tengbom, 3XN

ENGINEERS: P O Andersson Konstruktionsbyrå (m/p); Ikkab (electrical); Hillstatik (structural)

CONSULTANTS: LAND Arkitektu (landscape); Black Ljusdesign (lighting); Åkerlöf Hallin Akustikkonsult (acoustical)

PROJECT MANAGER: Forsen Projekt

CLIENTS: Humlegården Fastigheter, Swedbank

SIZE: 484,000 square feet

COST: withheld

COMPLETION DATE: June 2014

SOURCES

FACADE: Scandinavian Glass Systems

FACADE BLINDS: erco systems

WOODWORK: Frapont

ELEVATORS/ESCALATORS: Kone

The building's "folded triple V" plan and the diagonals in its glass-and-aluminum cladding make for a dynamic facade (left). The folds define five skylit atriums (below). Two of these dramatic spaces contain a sculptural spiral stair.

Swedbank Headquarters
3XN
Sundbyberg, Sweden

ROUGHLY FIVE years ago, the leaders of Swedbank decided to move their operations out of the office building they had occupied for four decades in the heart of Stockholm. The 1970s edifice, along with neighboring buildings that the bank had expanded into, consisted primarily of cellular offices and long corridors and was cramped and dark. It "no longer matched their vision for banking's future," says Daniel Markstrom, head of architecture for Humlegården, the developer of Swedbank's new 484,000-square-foot headquarters in Syndbyberg, a suburb and commuter hub about 5 miles from central Stockholm. What the bank wanted, says Markstrom, was a more flexible home that would accommodate all 2,700 employees and foster collaboration among them.

In response to these desires, Humlegården and its Copenhagen-based architect, 3XN, created a building for the roughly rectangular 1.2-acre site that is six stories tall at one end and gradually ascends to nine stories at the other. The steel-and-concrete structure has a zigzagging plan that forms what the designers describe as a "folded triple V." It defines five dramatic skylit atriums—one within each fold—that offer visual connections among the bank's working groups.

Creating the atriums actually saved money, says Kim Herforth Nielsen, 3XN principal. Enclosing the spaces between folds reduced the exterior surface area and, as a consequence,



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cut the amount of aluminum-and-glass skin required.

The interiors, developed with Swedish firm Tengbom, have white walls, oak floors, and splashes of color. The layout includes almost no private offices. Instead, there are cubicles, upholstered chairs, niches with tables and banquettes, and glass-enclosed conference rooms. Employees are not tethered to a specific desk; they select their work locations daily, based on personal preferences and their assigned projects.

This system functions well, says Nielsen, because there are almost twice as many work spaces as there are occupants. Yet 3XN's building is about 25 percent smaller than the bank's former home. This is possible, in part, because the new structure frees up space once taken by conventional hallways. Rather than enclosed corridors, an open "main street" offers a route through each floor and connects its coffee stations. The placement of these gathering spots transforms the circulation areas into zones for socializing and informal meetings.

The new building's use of space is not its only efficiency. Swedbank anticipates that its annual operating costs will be about $20 million lower than they had been in the city center. The new headquarters should also conserve energy due to features such as a heat-recovery system and a thermally robust skin. The energy-use target, excluding lighting and plug loads, is only 4.65kWh per square foot per year—half the current standard. Although it is still too early for a complete year of operating data, the building is performing better than expected, according to the developer, with consumption hovering around 3.72kWh per square foot per year.

The project's success can be attributed to the alignment of the clients' goals with those of the design-and-development team, according to Markstrom: "3XN's philosophy and architecture," he says, "are a perfect match for Swedbank." *Joann Gonchar, AIA*

Employees are not tethered to a specific desk. Instead they can select a different work space daily. Their choices include a long shared desk or roomy upholstered seating in the library (left), tables near one of the many coffee stations (bottom, right), and glass-enclosed conference rooms (bottom, left).





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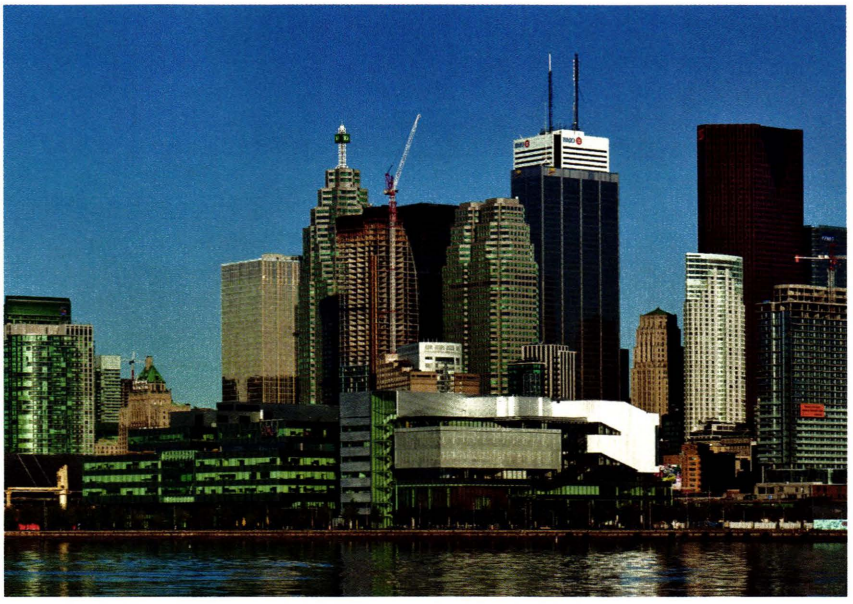
CIRCLE 90

GOOD DESIGN IS good business

George Brown College Waterfront Campus

Stantec Architecture / KPMB Architects

Toronto



IN 2012, George Brown College, an urban community college in Toronto, built a waterfront campus for its school of health sciences. Representing a 40 percent expansion of the overall campus, the new 450,000-square-foot, $140-million building responds to rising demand for health-care professionals, in particular those who are preparing for a collaborative practice. By uniting the schools of Dental Health, Heath and Wellness, Health Management, and Nursing and creating strategic social spaces shared by all student bodies, the facility refutes the silo mentality that had kept these related departments from intersecting. Students traveling diverse paths now meet each other easily, build connections, and, in effect, teach one another.



Previously the four programs occupied a building in downtown Toronto that lacked common areas. To realize the client's vision for learning, the design team—KPMB Architects in a joint venture with Stantec Architecture—first consulted research on the pedagogy. For example, a 2001 study by Thomas Allen of MIT's Sloan School of Management concluded that collaboration requires, above all, proximity. "It was so simple that we laughed," recalls KPMB principal Bruce Kuwabara, "but it's absolutely true." Analysis also showed that learning often happens outside the classroom: students share information in casual conversation.

Therefore, KPMB worked with Stantec to maximize student interaction: they designed a vertical structure whose interlocking spaces draw students nearer to one another. To foster informal exchange, the team also conceived dining zones as natural extensions of learning areas.

The dominant feature of this scheme is known as the "Learning Landscape": two large expanses of stadium seating that are affixed to open staircases on the second and third floors. These open areas encourage carry-over discussions from formal lectures and meetings, as well as more ad hoc exchanges, against a background of Lake Ontario and

Perched on Toronto Harbour (top), the new George Brown College building is fueling revitalization of the Bayfront Shore district. The mid-rise accommodates four schools of health science, as well as publicly accessible services like health-care clinics (above).

View additional images at architecturalrecord.com.

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GOOD DESIGN IS good business



the Toronto skyline. "We've devised all sorts of strategies to draw people out of their foxholes," Kuwabara says.

In the new building's first year of operation, George Brown College exceeded its target for full-time health-science enrollment. Today it operates at capacity, with 3,500 students and 500 faculty. Enrollment revenues have risen by almost $1 million, or 5 percent, since the 2011–12 academic year. The building design has directly attracted more than $4 million for naming opportunities, with $3.2 million of that pledged as a single donation in 2014.

The influx of young people is energizing the locale, a former industrial precinct called Bayfront Shore whose revitalization figures into a larger master plan for the City of Toronto. To stoke Bayfront Shore's transformation as a vital mixed-use neighborhood, much of the new academic building doubles as public space. Lounge amenities and retail spaces are open to visitors, and they annually generate almost $800,000 in food sales and $1.3 million in bookstore revenue. The campus further engages the community through its WAVE (Wellness, Applied Research, and Visionary Education) clinics, in which students and faculty operate dental, hearing, fitness, active-living, and health-promotion clinics for residents. In 2013, the new building reported 17,400 patient visits, a 45 percent increase over its former building's clinics. The design team credits the client for supporting a scheme that attracts and empowers the student body and citizenry alike. "Architecturally speaking," says Kuwabara, "this is the biggest statement on collaboration that we've ever seen by anybody." *Adele Weder*

A generous stair featuring stadium seating (left) encourages interdisciplinary exchange, and supports occasional group lectures. The college trains students in nursing and other health-care professions (below), with a focus on team-based, patient-centered delivery, as per the recommendations of Canada's Romanow Commission.



credits

ARCHITECTS: Stantec Architecture and KPMB Architects

ENGINEERS: Stantec Consulting (structural, m/e/p, civil, sustainability)

CONSULTANTS: PFS Studio (landscape); Martin Conboy Lighting Design (lighting); Aerocoustics (acoustical)

GENERAL CONTRACTOR: EllisDon

CLIENT: George Brown College

SIZE: 450,000 square feet

COST: approximately $136 million

COMPLETION DATE: September 2012

SOURCES

FACADE: Sota Glazing (curtain wall); Clifford Masonry (masonry); Allwood Industries (wood); Gage (insulated metal siding)

METAL PANELS: MRM

PRECAST CONCRETE: CBM

LIGHTING: Copper Lighting, Lithonia, Sistemalux (interior ambient lighting); Martin Conboy Lighting Design (downlights)

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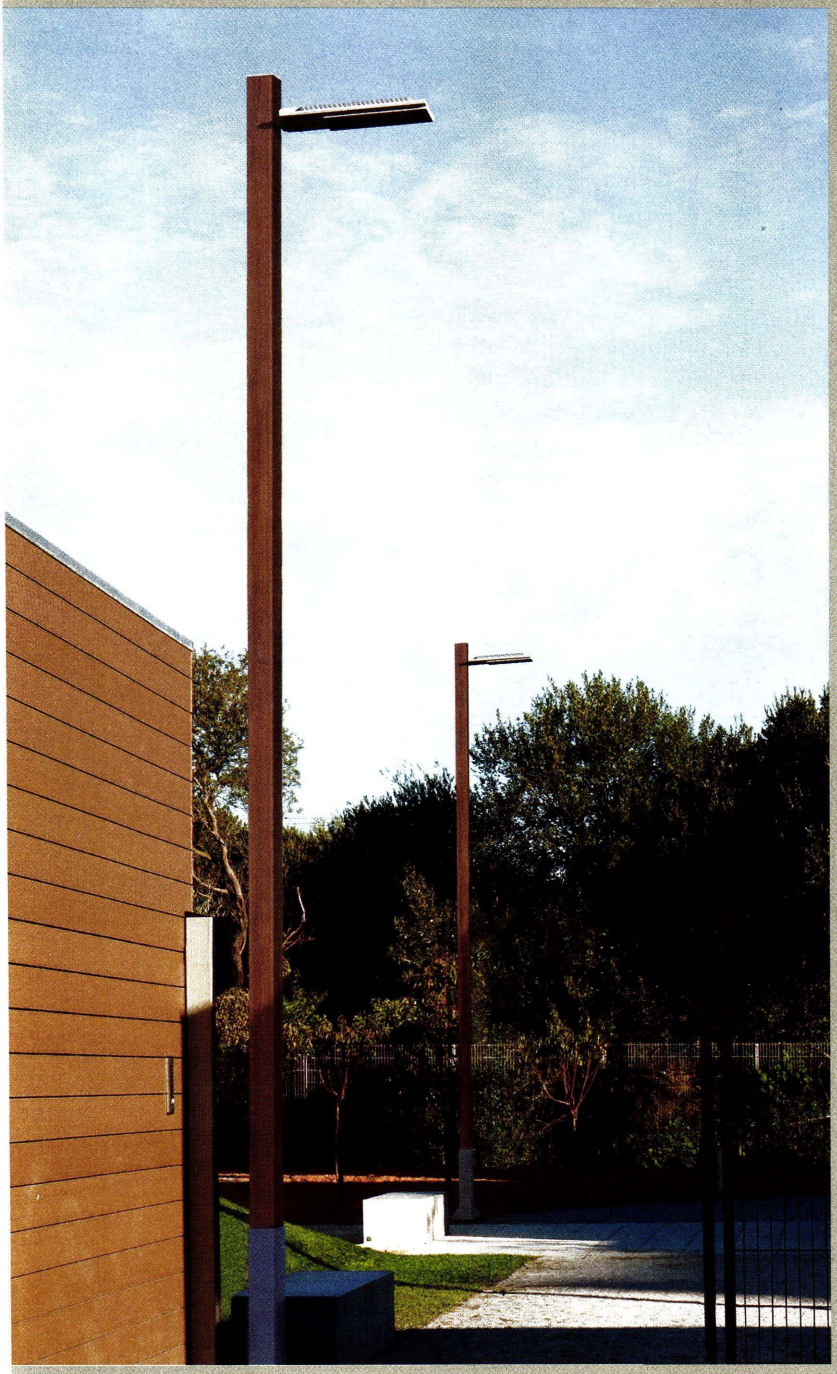
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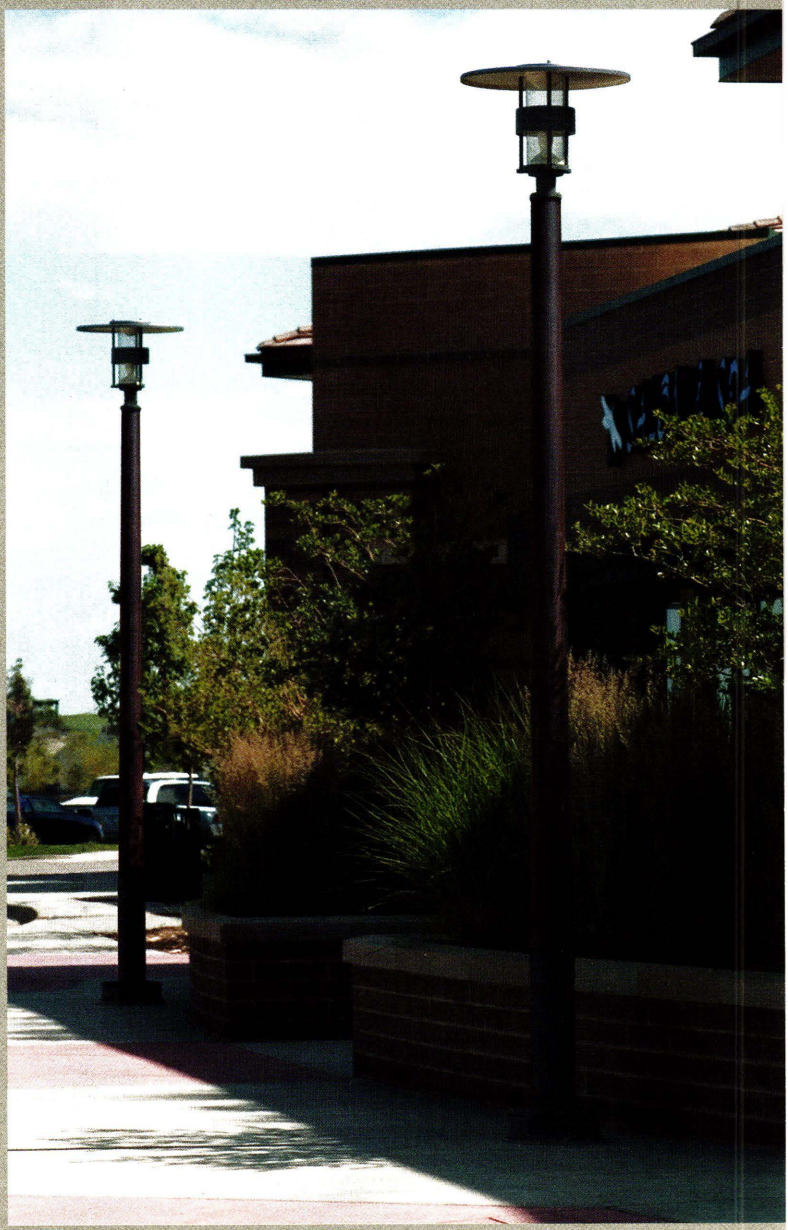
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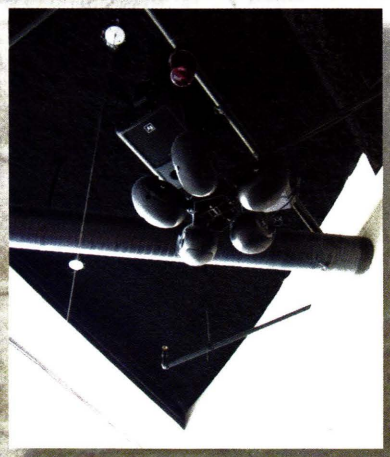
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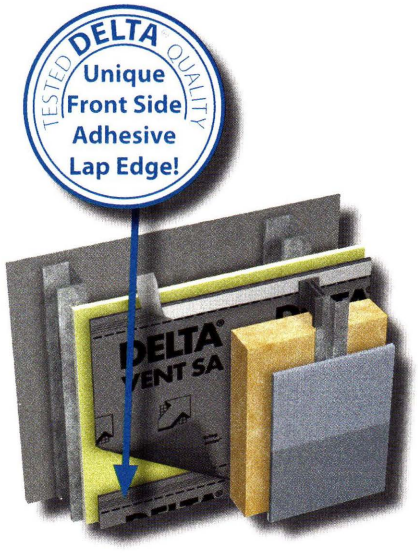
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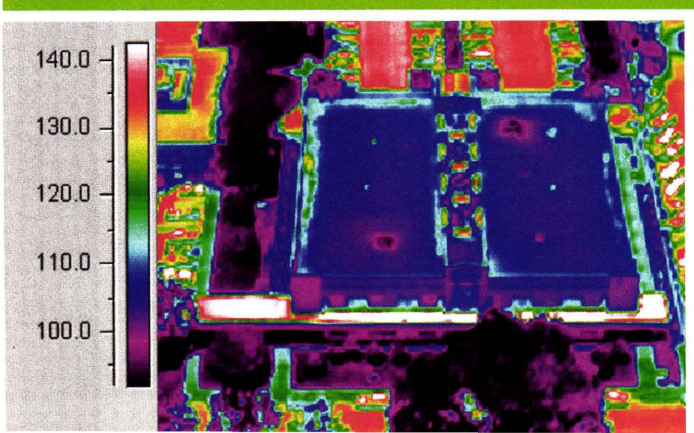
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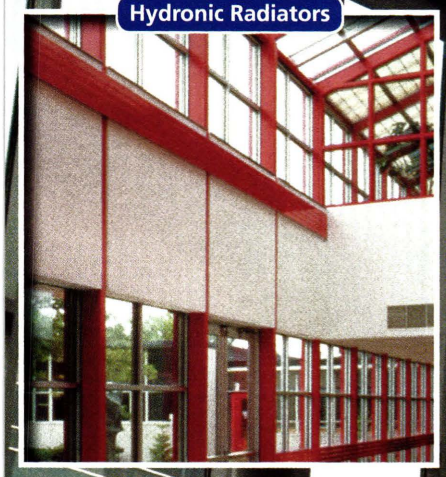
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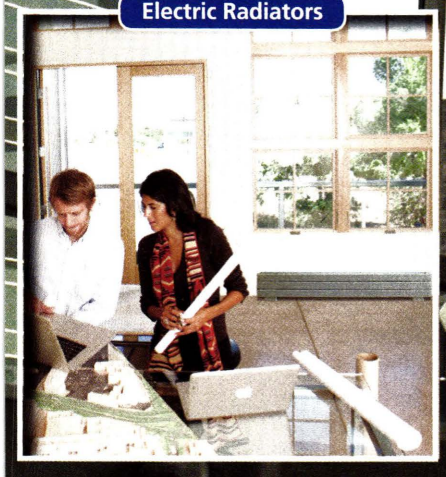
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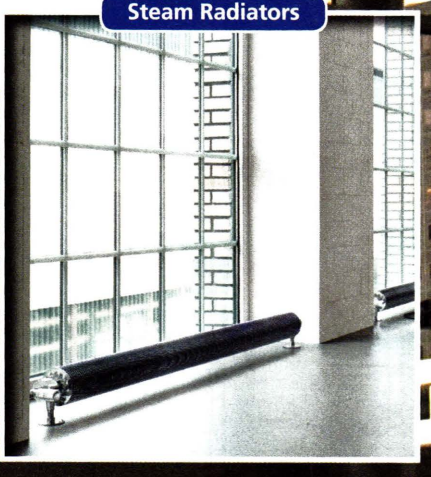
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CIRCLE 24

Architecture & Money

Not so long ago, architects were struggling to keep their heads above water during the recession. Now huge investments in key sectors of the market, and in certain parts of the country, have led to a boom in design and construction. Nowhere is that more apparent than in New York, where super-slender, supertall residential skyscrapers have become the talismans of a new gilded age. These controversial projects are viewed by some as innovative designs that are symbols of progress—and by others as reckless development with a negative impact on the urban realm. The issues raised by the flood of capital include a shift in focus to the private patrons who increasingly pay for public design. And there are big questions for the profession: is all this new money good for architects—and for architecture?

150 THE NEW GILDED AGE
170 PRACTICE
181 CULTURE

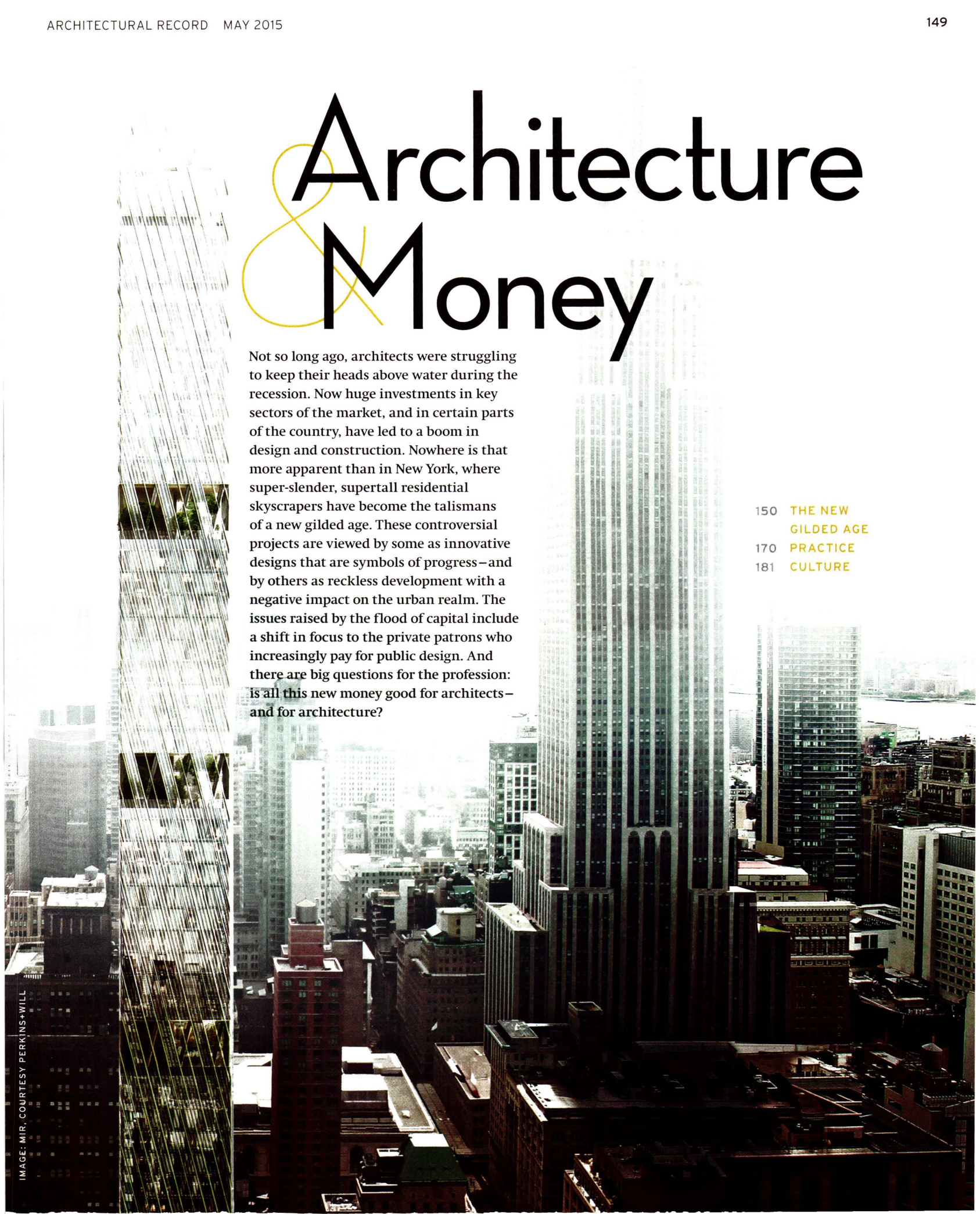


IMAGE: MIR, COURTESY PERKINS+WILL

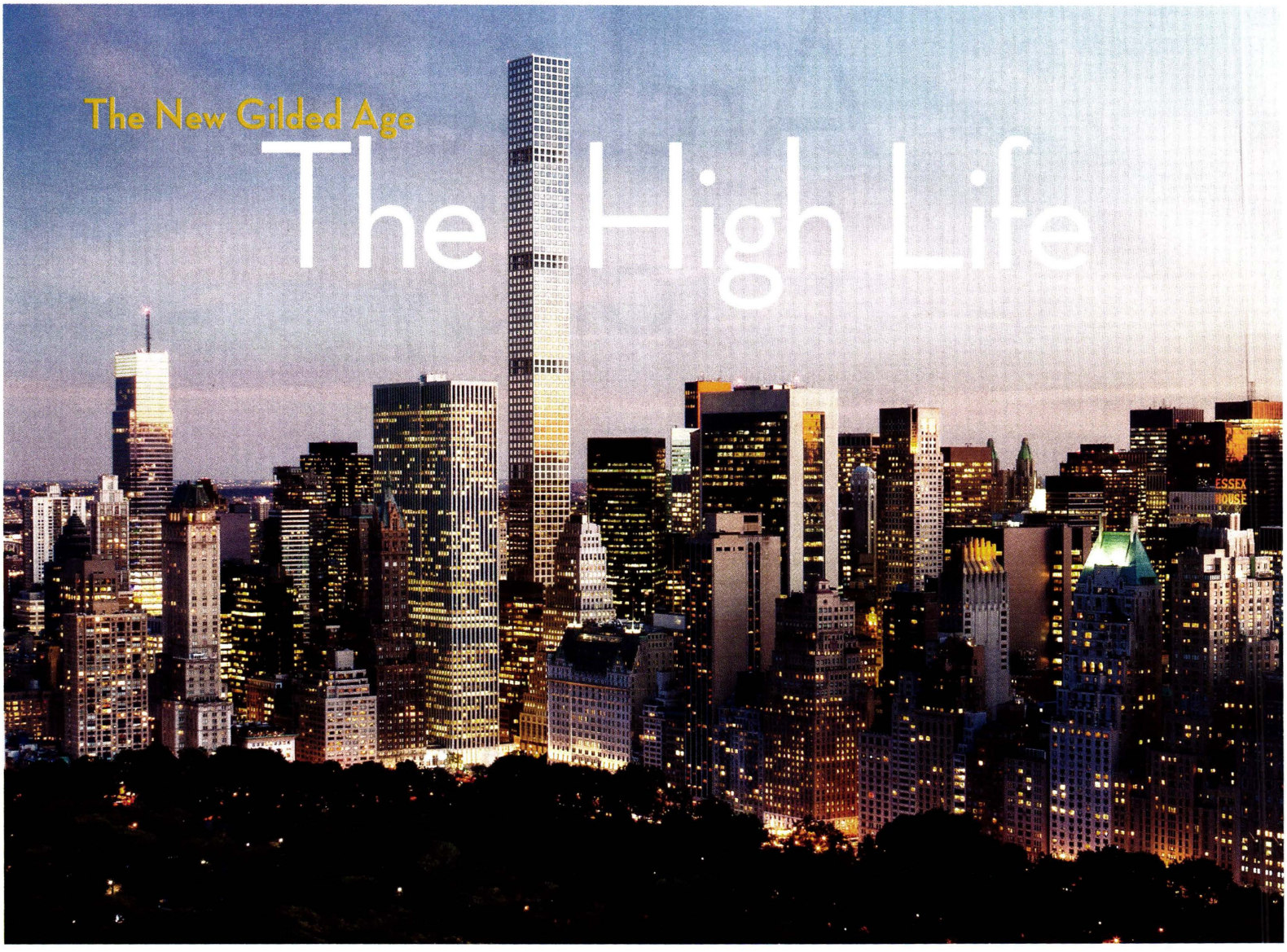


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The New Gilded Age

The High Life

The new super-slender, supertall residential skyscrapers are emblematic of high demand and new money flooding into the market for architecture.

BY JERRY ADLER

As you traverse the streets of Midtown Manhattan, the new skyscraper known as 432 Park Avenue pops in and out of view unexpectedly, hidden behind the Waldorf-Astoria at one moment, then looming menacingly over Lever House—a giant watchtower of blindingly white concrete with the proportions of an elongated toothpaste box stood on end. Rising almost 1,400 feet, but with a square footprint of just 93 feet on each side, Rafael Viñoly's condominium tower has an extraordinary "slenderness ratio" of 1 to 15 (the ratio of the width of its base to its height). It is somehow both immense and elegant, and with its severe, gridded, square-windowed module, it seems to exist in a style all its own: Dainty Brutalism. It is being advertised—in seven languages on its lavishly produced website—as "the tallest residential tower in the Western hemisphere." But another apartment building, planned for a site just a few blocks to the west, will be taller and have an even slimmer profile: 111 West 57th Street, designed by SHoP, will rise 80 stories and 1,428 feet, from a 60-foot-wide base that incorporates the landmarked 1925 Steinway piano showroom at grade. That produces a slenderness ratio of 1 to 23, while creating a tapering silhouette that (in an eye-catching rendering in a recent *New York Times Magazine* advertisement) precisely matched that of a No. 2 pencil.

Hence the emergence of the extra-skinny, supertall, ultra-luxury residential tower, which Carol Willis, the founder and director of New York's Skyscraper Museum, calls "a whole new skyscraper form," evocative of the iconic New York skyscrapers of the last century. While office buildings have

become broader, to accommodate the big floor plates demanded by commercial tenants, residential design has adopted the slender tower form.

This is an architectural development that has been driven, of course, by money. Buildings this tall and narrow do present some engineering challenges to deal with swaying in wind forces, and certain improvements in technology of construction since the 1990s help enable nearly doubling the maximum height of residential building. (In the late 1980s, 750 feet was considered tall.) And the legal basis for these acromegalic, as-of-right towers has been in place for decades: developers can transfer the air rights of lower adjacent properties and pile the FAR onto their attenuated towers. But it is a vast influx of wealth, much of it from abroad, pouring into New York that is creating a demand for trophy properties stuffed with amenities, for prices that are edging past the twin landmarks of $100 million and $10,000 a square foot. (The same thing is happening, on a smaller scale, in Miami, where much handwringing has been occasioned by apartments' selling for the previously unheard-of price of $1,000 a foot.)

This is not a phenomenon unique to our time, of course. New York has seen a succession of gilded ages, beginning with the one in the 19th century, when millionaires (as billionaires used to be called) distilled the wealth of a continent into showy block-wide mansions lining Fifth Avenue. There was another in the 1980s, when an earlier wave of foreign buyers—often Arabs and Japanese then, versus an influx of Russians and South Asians now—colonized the likes of the Trump Tower and CitySpire, sharing elevators with professional athletes and pop stars. Much of the conceptual groundwork for the current wave of projects was laid then, including the novel idea of marketing the buildings with high-profile architecture—Der Scutt's bronze-glass curtain wall for Trump Tower on Fifth Avenue (1983), Helmut Jahn's domed top for CitySpire (1987) overlooking Central Park. Olympic Tower (1976), arguably the first important Midtown luxury condominium, was a black-glass-walled box designed by Skidmore, Owings & Merrill. But at least since 2002, when Richard Meier designed a pair of striking transparent-glass high-rises floating at the edge of the Hudson River, a name architect has been required for marketing a new building of any pretension at all. Robert A.M. Stern's elegant, sophisticated, but hardly cutting-edge design for 15 Central Park West defines one end of the spectrum of acceptability; at the other, perhaps, is the 90-story One 57, down the block from the future SHoP building, with a rippling glass curtain wall in variegated blues by "Pritzker Prize–winning architect Christian de Portzamparc," as the website announces almost as soon as you enter it. The first of the supertalls to be completed, it set a price record last year when a penthouse apartment sold for just over $100 million. "It's interesting for architects," muses SHoP partner Vishaan Chakrabarti. "For decades we've complained in New York that no one cares about architecture, but just in the last 10 or 15 years, there's been a proven market value associated with design."

When the Astors and the Vanderbilts built their mansions, they also sought name architects—such as Richard Morris Hunt or Stanford White—but they probably didn't have resale value in mind. A dwelling isn't any more comfortable to live in because the outside of the building was designed by someone famous, but the idea that design has intrinsic value is entrenched in New York and extends to Miami, where new residential buildings have been designed by Zaha Hadid, Rem Koolhaas of OMA, and Bjarke Ingels of BIG, among others. The phenomenon is creating new opportunities for architecture and reshaping skylines; the view looking south from Central Park, or toward land from offshore Miami Beach, will be almost unrecognizable in a few years to anyone whose memories date back just to the turn of the century. And although a building like 111 West 57th Street will contain only 60 apartments, its prominence and lavishness give it an outsize presence in the city's image at a time when young families who long ago gave up on living in Manhattan are being priced out of Brooklyn and parts of Queens as well.

In New York, another prerequisite

TRANSFORMING THE SKYLINE
Renderings of Viñoly's 432 Park in the cityscape (opposite); SHoP's 111 West 57th with One West 57th by Portzamparc (below, left, to the left and right in photo, respectively); Hadid's planned tower for downtown Miami (below, right).





IMAGES: COURTESY SHOP ARCHITECTS (LEFT); ZAHA HADID ARCHITECTS (RIGHT)

for the current real-estate boom was the fairly recent ascendancy of the condominium form of ownership, which greatly reduces the financial risk to developers by enabling them to start booking sales while the building is little more than a rendering and a model apartment. In contrast to the co-op, a condominium can be bought and sold without a board's approval, to pretty much anyone who can come up with the price. (The co-op boards of Manhattan's prime East Side buildings are notoriously stuffy about whom they will admit.) And anonymity is one of the prized perquisites of life on the 80th floor. Earlier this year, *The New York Times* published an investigation of the high-end luxury Time Warner condominiums, documenting what most New Yorkers already knew: that many of the apartments were being bought by foreigners and corporate entities as investments, a conclusion that struck Chakrabarti as "slightly xenophobic." "People are parking their money in New York and London," says Stern, "because they seem safe in comparison to the instability in the rest of the world." Views, closets, and professional chef's kitchens are a form of stored wealth, like a Matisse. And, as with Impressionist paintings that sell anonymously at auction, the public may never know which oligarch is privately stashing his millions high above the streets of Manhattan.

As a consequence, though, the apartments seem increasingly divorced from any consideration of how people, even billionaires, actually live. According to plans, the triplex penthouse that will sit below the famous Chippendale top of the 1984 Sony (originally AT&T) Building—once Stern converts the offices in the building, designed by his mentor Philip Johnson, to condos—will comprise 21,000 square feet and include eight bedrooms, eight full baths, and *10* powder rooms. An apartment with more toilets than a good-sized museum is obviously aimed at a buyer whose needs go beyond mere convenience, or even ostentation. Most of the new crop of towers will have amenities including clubs with professional kitchens, curated libraries, performance spaces, yoga studios, and facilities for bathing dogs. The apartments tend to have high ceilings and full-height windows offering views far up the Hudson River and almost to the Atlantic Ocean. (These are typically photographed, for marketing purposes, from a circling drone.) At the very highest end of the spectrum, interior finishes are almost beside the point, since the assumption is that buyers will rip them all out anyway. "If you have to pay six to eight thousand dollars per [square] foot," Viñoly mused in a lecture, "and you design a unit for someone who has that kind of money . . . you're wasting your time. Who wouldn't want to do whatever they want with that space?"

Even if the floor plates seem relatively small, the apartments are big. The Kohn Pedersen Fox–designed building rising on East 22nd Street will house just 83 apartments on its 65 floors, which is typical of this new generation of towers. (The developer, Bruce Eichner, also built CitySpire, which, when it opened in 1987, had more than 300 apartments on about 50 floors.) Putting just one apartment on a floor promotes a sense of exclusivity, guarantees 360-degree views, and, from the developer's point of view, means no usable floor space is wasted on corridors or elevator landings—all part of what Willis called, in the title of a show last year at the Skyscraper Museum, *The Logic of Luxury*.

There is a logic to luxury, but it has to work for a broader swath of society than the billionaires famously hailed by former mayor Michael Bloomberg as a "godsend" to New York. "They are the ones who pay a lot of the taxes," he said—except they often don't; a tax abatement for new residential construction, dating from 1971, when New York was desperate to attract new housing, means that the owners of those $100 million condos will be paying far less than their share of taxes for years to come.

Nor will they be contributing much to the city's commerce; many of the apartments will be unoccupied by their wealthy owners much of the year. "You drive past Meier's buildings on West Street, and the windows are dark all the time," says Willis. "There's an argument that we're killing neighborhoods by allowing rich people to buy apartments that are left empty, because the local restaurants and shops



LUXURY LIVING
Floor-to-ceiling glass with sweeping views of the city and beyond are a major amenity of the supertalls, as seen here in a rendering of 12 East 37th Street in Manhattan by Perkins+Will.

IMAGE: MIR, COURTESY PERKINS+WILL

don't have enough traffic to support them." In London, she notes, they call it "zombie urbanism," but it's a bigger problem there, where the very rich tend to buy entire private houses. There will still be plenty of foot traffic on West 57th Street, no matter how many billionaires own apartments there. She adds that most people don't regard it as a crime against society for city-dwellers to own a vacation home they use only a few weeks or months a year. The history of luxury real-estate development, in New York and elsewhere, suggests that the market will eventually weaken; the number of buyers who could spring for the top apartments at 432 Park, as Viñoly himself said, is about "95 people in the world." But if the global elite does pack up and move on to wherever they go next, the buildings, for better or worse, will have changed the skyline and the built environment for the rest of us, far into the future. ■

Jerry Adler, a New York–based writer, is the author of High Rise: How 1,000 Men and Women Worked Around the Clock and Lost $200 Million Building a Skyscraper.

PHOTOGRAPHY: © RYAN MILLER



The New Gilded Age

MEGA PATRON

Philanthropist Eli Broad gives big but expects control.

BY JAMES S. RUSSELL, FAIA

A drive along Grand Avenue, in downtown Los Angeles, displays a cultural and civic acropolis willed into being largely through the gifts and relentless effort of philanthropist Eli Broad: an arts high school by Viennese architect Coop Himmelb(l)au, the concrete majesty of the Cathedral of Our Lady of the Angels by Rafael Moneo. A couple of blocks away, find the mute metal screens that cover the state transportation agency Caltrans, by Morphosis.

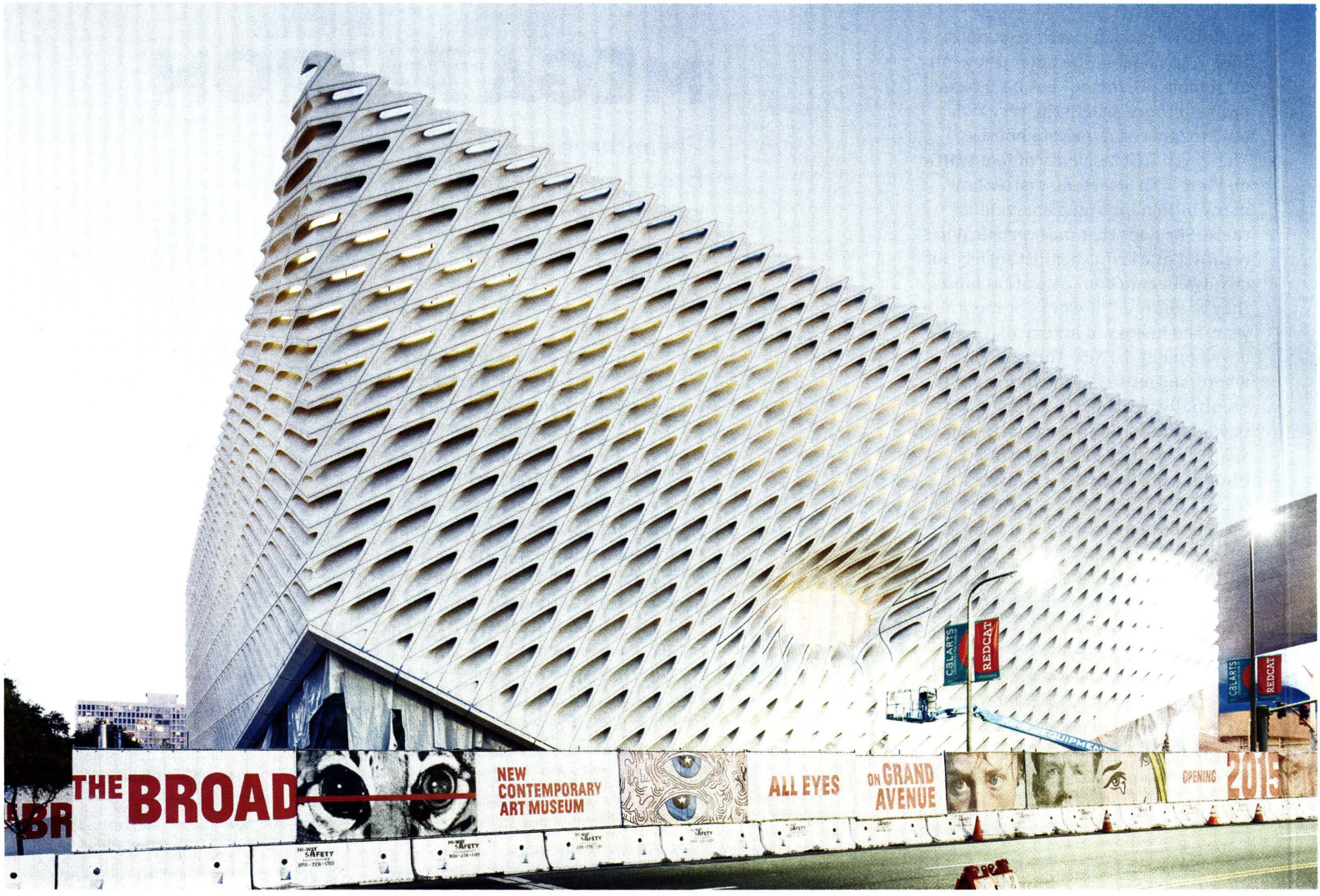
Broad helped negotiate a $50 million deposit from the Related Companies to jump-start Grand Park, designed by Rios Clementi Hale Studios, an oasis in a park-starved part of the city. Related has relaunched a recession-delayed $700 million commercial and residential development next to the park with architect Frank Gehry at the helm. Just beyond the curling stainless-steel fronds of Gehry's 2003 Walt Disney Concert Hall, boosted by Broad's fundraising acumen, hunkers Arata Isozaki's red sandstone Museum of Contemporary Art (MOCA). Broad helped found the museum in 1979. He strongly advocates design competitions, which brought about the commissioning of Coop Himmelb(l)au, Morphosis, and Zaha Hadid (for the Broad Art Museum [RECORD, January 2013, page 92] at Eli's alma mater, Michigan State University in East Lansing).

Now that private philanthropy largely finances American arts institutions, private donors deploy dollars to wield vast influence over those public entities. No one has used such power like Eli Broad (rhymes with *road*). With his generosity comes an obsessive involvement that can drive away allies, just as his gifts and unstinting commitment have raised millions for causes he cares about. "He is extremely hyper-organized and an ultraclassic Type A," said Deborah Borda, the president and CEO of the Los Angeles Philharmonic, who worked with Broad on Disney Hall and serves on the board of The Broad. He demands control—of key hires like museum directors and architects—that critic Martin Filler has called his "all-strings-attached modus operandi." To recurring accusations that he is autocratic, his usual response is, "I didn't want to waste time."



MIDAS TOUCH After building two separate billion-dollar businesses, Eli Broad (pictured here inside The Broad in Los Angeles during construction) turned his attention to giving.

After building two billion-dollar fortunes (in what is now the residential building corporation KB Home, and SunAmerica Inc., an insurer), he went on to make his mark as a philanthropist savvy in art and architecture. Broad and his wife, Edythe, also have made gifts in the hundreds of millions to medical research and to support education reform nationwide. In his commitment of funds and expertise, Broad is the philanthropist-in-chief of Los Angeles. The culminating civic commitment of Eli, 81, and Edythe is



just finishing next door to Disney Hall—a 120,000-square-foot art museum called The Broad. Opening September 20, it will house and display their collection of 2,000 objects of modern and contemporary art collected over 40 years. In 1984, the Broads established their own art foundation, with a liberal lending program (8,000 loans so far). Broad explains, "We want our collection to be seen by the broadest possible audience."

Elizabeth Diller, partner in the New York firm Diller Scofidio + Renfro, calls The Broad's cheese-grater facade the Veil. It tips up at its street-level corners to reveal full-height glass walls of the block-long lobby. Within, curved surfaces soar like massive tree trunks and spread to form the ceiling overhead. They evoke the huge weight of what is called the Vault, an almost windowless volume hoisted high above the street that will store the Broads' collection.

$7.1B

Eli Broad's net worth according to Forbes.

The Vault idea helped Diller's team win a private design competition. (Losing firms reportedly included OMA, Herzog & de Meuron, and SANAA.) A 105-foot-long escalator tunnels through the dark Vault to make its mass palpable, arriving at the top-floor display space where natural light pours in. The architect contrasted the Vault's solidity with the skewed, honeycomb grid of the Veil. In concept, the Veil was to be strong, like a mesh basket, and so could support itself and roof the top-floor exhibition space free of columns and walls. At the same time the grid's openings would allow controlled daylight to spill into the displays through the walls and roof. Along the outside, Diller let the veil soften at the corners and warp in places, suggesting a tactile, cloth-like pliability.

By celebrating the private-collection archive and the public exhibition space, Diller's design became a literal embodiment of Broad's aspiration. "Liz really thought it through," Broad says. "The Veil and the Vault made sense."

Broad could not resist the speculative builder's instinct to question every dollar spent. From the beginning, Diller says, "He underestimated what a museum of this caliber was going to cost" (supposedly $80 to $100 million). But with his customary gusto, Broad immersed himself in every detail. "Getting a building built can be like a sausage factory," Diller says. "Sometimes you don't want to expose the client to all that. But it was very hard to keep anything from Eli."

Diller intended the Veil to be made of precast concrete panels. "Before we signed on to Liz's design, we looked at who was to fabricate it," Broad says. He explained that his first-choice firm

PHOTOGRAPHY: © IWAN BAAN

estimated the manufacture of the Veil at $9 million. He commissioned DS+R to complete the design but found, "Six months later, the fabricator would not do it for $30 million." As time passed, the architects would work with four different structural engineers, but ultimately the team concluded that California's demanding seismic requirements would require a much more robust approach.

The Broad team turned to German curtain-wall specialist Seele, which came up with a highly complex assembly of criss-crossing welded-steel tubes covered with fiber-reinforced concrete panels. Solid walls replaced glass in three of four walls. Only on the Grand Avenue side does the veil refract daylight through a full-height glass wall. Outside, the Veil has largely lost the liquid surface quality shown in renderings. On three sides, it is embossed rather than deeply incised, boxy rather than sculpted. Even so, the museum's cost has risen to $140 million and is opening 15 months late.

Broad has initiated a legal action against Seele to recover $19.8 million in costs related to the delays. The suit won't be resolved until after the building is done.

It's not the first time crucial compromises have been made on projects in which Broad has been deeply involved. While pressing for boldface-name architects, he has often been impatient with the time and money their designs take. As founding chairman of MOCA, he helped negotiate a deal with the developer of adjacent lots, the California Plaza Partnership, which agreed to pay the $23 million cost to build MOCA to satisfy a percent-for-art obligation. In return, the developer insisted that architect Arata Isozaki sink most of the 1986 museum below the street to preserve views from its buildings, which left the design with a weak street presence and forces visitors to descend into an unappetizing pit. Though impressive early acquisitions seemed to position the new museum as a premier contemporary collection, the architecture did not help MOCA build a strong identity. By late 2008, it faced insolvency. Broad saved the day with a $30 million bailout.

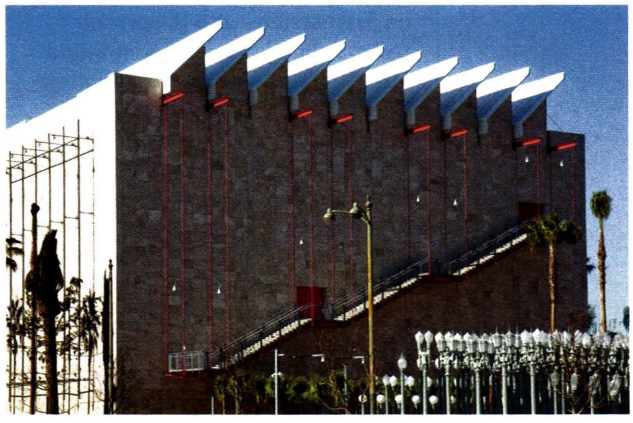
Broad also courted the Los Angeles County Museum of Art (LACMA), supporting a competition-winning $300 million 2001 overhaul by Dutch architect Rem Koolhaas that entailed demolishing much of the existing hodgepodge. But when fundraising fell short, Broad proposed to scrap the plan and underwrite a new wing—and he wanted Renzo Piano to design it. Broad was allowed unusual authority because LACMA believed it would receive substantial gifts of art from the Broads to go with the building. Piano worked directly with Broad and his foundation's director, Joanne Heyler, along with Michael Govan (whom Broad had lured to LACMA as its CEO and director).

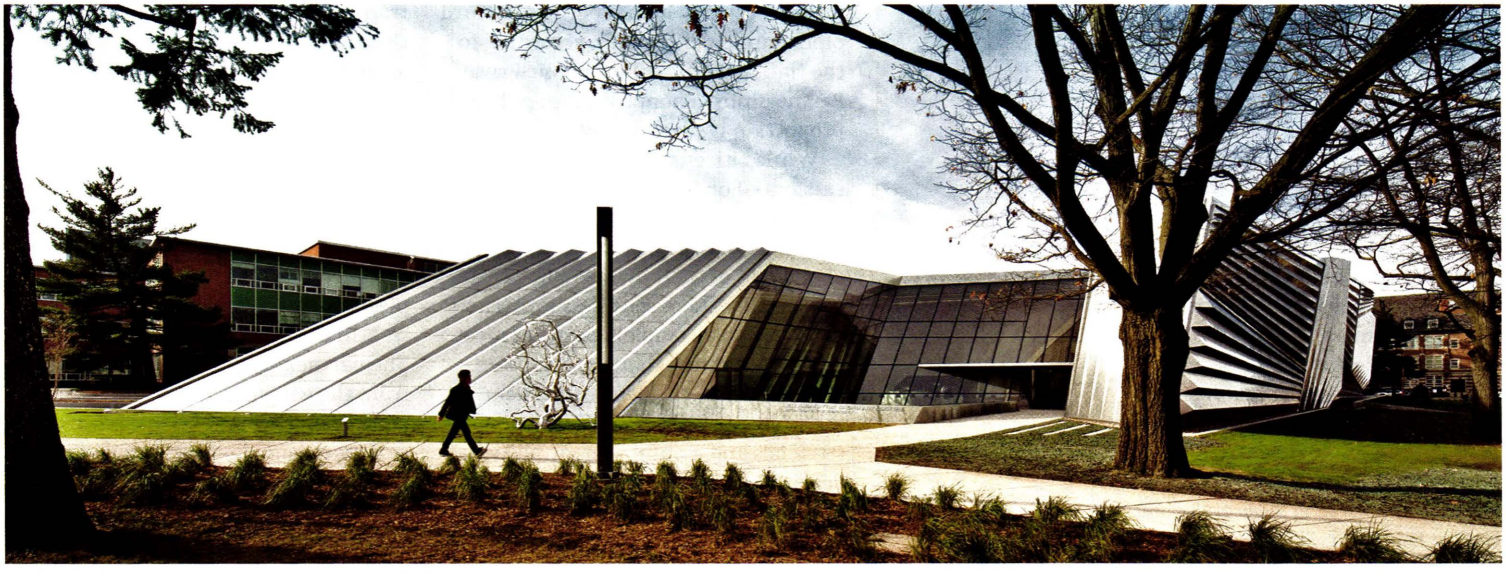
Piano is used to setting the stage for art viewing with sunlight-filled lobbies and convivial gathering spaces—but Broad wanted, and got—an almost windowless $56-million bunker with a top-floor rooflight, and little else. Even the stair linking the building's three gallery levels was banished to the exterior, like a fire escape.

"He doesn't seem to value the kind of creativity architects like SANAA, Frank Gehry, or Renzo Piano bring," said Andrew Klemmer, president of the Paratus Group, which manages complex arts-institution building projects, though he has never consulted for Broad. Klemmer believes LACMA committed a cardinal sin by giving him so much control over the project. "A public institution should never twist its program and intention to draw a donor in."

Only a month before the 2008 opening of the wing, called the Broad Contemporary Art Museum, Broad reneged on the art gift, saying that a deal had never been worked out, leaving Govan hanging in the wind.

BIG NAME
Eli Broad has his name on several buildings by high-profile architects, including The Broad in Los Angeles by Diller Scofidio + Renfro, opening this fall (opposite), the Broad Contemporary Art Museum at LACMA by Renzo Piano (below), and the Eli and Edythe Broad Art Museum at Michigan State University by Zaha Hadid (bottom).





PHOTOGRAPHY: © 2008 MUSEUM ASSOCIATES/LACMA (TOP); BRAD FEINKNOPF (BOTTOM)

Disney Hall was a different story—and became a triumph of design because Broad lost a highly public battle with Gehry. After a decade of effort to build the concert hall—but with only an underground parking garage completed—the uber-patron appeared to jump-start moribund fundraising. But Broad was impatient with Gehry's deliberative process. Years earlier, he had hired Gehry to design a house but grew impatient, bringing in someone else to finish it. "Eli tried to fire me from Disney, and it felt nasty at the time," said Gehry. "He said my ego held the concert hall back." Gehry fought the firing, and supporters, notably Diane Disney Miller, the daughter of Walt's widow, who had made the $50 million lead gift, rallied behind him. Gehry "took a couple of extra years and many more millions of dollars," Broad said. But Broad helped raise tens of millions of dollars to complete the $274 million project.

As the hall neared its opening and the full wonder of Gehry's accomplishment became evident, Gehry and Broad famously consummated a rapprochement at a dinner for supporters on Disney's stage. As they shook hands, Broad said, "I have to say, Frank was right." The unprecedented admission silenced the room. Board member Andrea Van de Kamp shouted, "Could you repeat that?" He did. "We're friends now," said Gehry. "He's been a great partner in our work in downtown LA."

In February, the Broads showed off their museum's tour de force, the column-free 35,000-square-foot exhibition floor. Though the space lost the three-dimensional quality of light coming in from all sides, the hundreds of light monitors in the skewed ceiling grid floated overhead like soft clouds, showering the space with limpid daylight.

Though the Baldessaris and Basquiats, the Currins, Koonses, Kiefers, and Kriegers should all glow happily, the museum's compromised design may keep it from becoming the equivalent of Louis Kahn's Kimbell Museum or Renzo Piano's Menil Collection: the perfect marriage of collector, collection, and architecture. ■

James S. Russell, FAIA, writes about architecture for several publications and blogs at JamesSRussell.net.

The New Gilded Age

Blurred Lines

As public-private partnerships come to dominate the urban realm, who decides what gets built?

BY RONDA KAYSEN

If all goes as planned, Midtown Manhattan will soon add a high-rise to its skyline substantially taller than the Empire State Building. In exchange for the gargantuan skyscraper, commuters would receive some $210 million of improvements to Grand Central Terminal, easing congestion. This pact would not only serve as a towering example of how cities rely on partnerships with the private realm to build civic spaces, it would also demonstrate how these arrangements influence the very projects architects design.

Over the past two decades, cities across the country have been turning to the private sector to help build schools, libraries, parks, and infrastructure. In recent years, the practice has become almost commonplace as municipalities grapple with budget shortfalls, high land prices, and a public that bristles at tax hikes. Today, the average American city relies on the private sector to help it perform a third of its municipal services, according to the National Council for Public-Private Partnerships, a nonprofit group. That proportion is sure to grow.

While citizens come to grips with existential questions about the risks and benefits of ceding the public arena to private industry, architects face challenges of their own. Public-private partnerships take countless forms and are invariably complex, borne of meetings and scrutiny that can last years. In many cases, designers find themselves shepherding a project for long stretches and assuming nontraditional duties along the way, like writing grants or navigating the rules of regulatory agencies. But the payoff can be sweet: a successful partnership can present an architect with a unique opportunity to build something that would never have existed otherwise. "These things are amazing professional bandwidth stretchers," says Gullivar Shepard, a principal at New York–based landscape architects Michael Van Valkenburgh Associates. "It's fascinating to learn about how the world works and not be in a design box. It gets very stuffy in there."

A PARTNERSHIP BY DESIGN

One Vanderbilt, the office tower planned for Midtown Manhattan by Kohn Pedersen Fox (KPF), would rise 64 stories—twice the size permitted—if it wins city approval this spring. In exchange, commuters would get an array of improvements to Grand Central next door, including a public waiting room in the tower's lobby, an underground pedestrian corridor connecting the building to the terminal, as well as new elevators, stairs, and subway entrances. The developer, SL Green Realty Corp., would also build and maintain an adjacent pedestrian plaza.

The proposed partnership would not only deliver the public concessions, it would also affect what the glassy 1,500-foot-tall building, with 1.6 million square feet of leasable space ultimately looks like. The architects designed its tapering tower, for example, to fulfill requirements to protect sightlines to the Chrysler Building. The partnership "redefined the project from the get-go," says KPF president James von Klemperer. The architects considered an alternate design without the public component, which yielded a 30 percent smaller building that lacked the subgrade connections and





TALL ORDER
One Vanderbilt, a 64-story tower designed by KPF may rise beside New York's Grand Central Terminal in exchange for civic improvements such as a commuter waiting room (at the tower's base) and pedestrianizing the street (above, right). The tapering design protects Chrysler Building views as seen from Bryant Park (above, left).

the plaza. "It was an entirely different ilk of project," says von Klemperer.

The public, however, has been a reluctant stakeholder. The two community boards that represent the neighborhood rejected proposals to rezone the site, pointing to concerns that the deal could shortchange the people. But community boards are advisory bodies, and their resolutions are not binding. Ultimately, the City Council will determine the fate of One Vanderbilt. "Very often, they [public-private partnerships] are done in such a way that the public doesn't benefit," says Stanley N. Katz, the director of the Princeton University Center for Arts and Cultural Policy Studies. "More than anything else, it is a subsidy to the developer."

KPF had unsuccessfully attempted to win the community boards over, inviting members to the company's offices. "The architect's job is not just to solve problems—it's to be a bit firm at the right times, to make a strong argument," says von Klemperer. "Without strong ideas and a strong reputation that wins over your client—and, in a way, your public client—then your buildings won't be of much value."

The plan does have the support of Mayor Bill de Blasio, whose administration is simultaneously pushing a plan to rezone five blocks of the immediate neighborhood to allow larger buildings in exchange for amenities. Having the city on your side can prove instrumental. "You're not alone at the podium when you're trying to explain the transaction in a public forum," says Mary G. Murphy, a partner at the law firm Gibson Dunn who has negotiated numerous public-private partnerships in the San Francisco Bay Area.

FRIENDS AND PUBLIC SPACES

In some cases, private citizens lead the charge, organizing communities to turn fallow land into a public amenity. In Austin, Texas, a $147 million public project to divert floodwater from downtown paved the way for the restoration of Waller Creek, which winds through the city center. Now the nonprofit Waller Creek Conservancy (WCC) is working with Michael Van Valkenburgh Associates and Thomas Phifer & Partners to restore the creek, connecting existing parks along the 1.5-mile stretch and adding new ones.

Supporters of Waller Creek point to the creation of a nonprofit conservancy as the reason that the park might finally materialize. Unlike a city agency that has a narrow mandate—to build city parks, etc.—a nonprofit can be nimble. If it handles maintenance, for example, a designer could use costlier materials like wood for benches, which might be too cumbersome for a city agency to maintain. "Public entities have so many varying commitments citywide that they tend toward regulation and similarity," says Peter Mullan, the chief executive officer of the WCC. "When you have something that requires anything but that, a standardized solution is difficult."

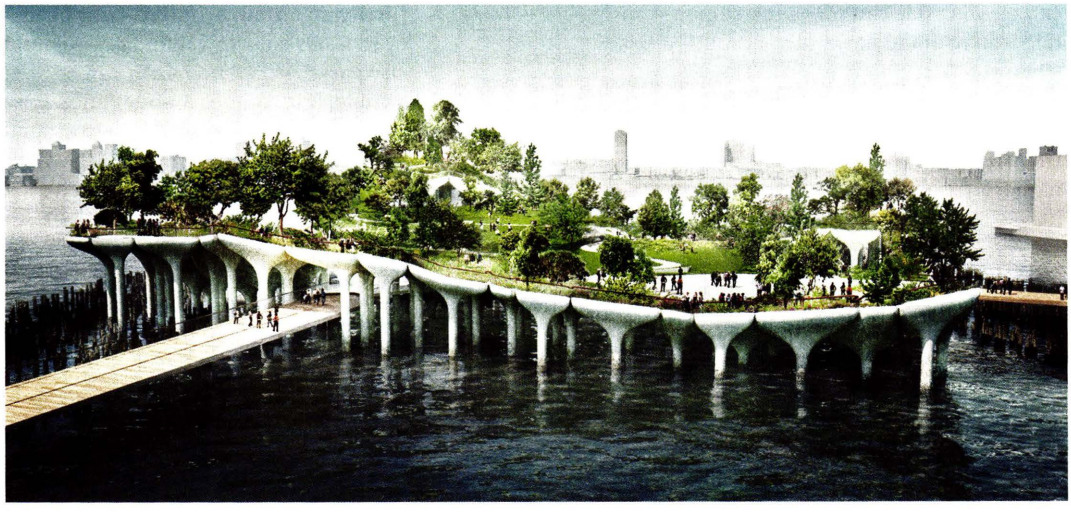
In recent years, these sorts of partnerships have led to some innovative

IMAGES: COURTESY KPF

designs, such as the proposal to build Pier 55, a $130 million park-and-performance space that would replace a derelict pier in downtown Manhattan. "When you look around, the more unique spaces are being built with private money," says Madelyn Wils, the president of the Hudson River Park Trust, the city-state organization that oversees the pier. IAC chairman Barry Diller and his wife, designer Diane von Furstenberg, are not only bankrolling most of the project, but also spearheading it. The Trust first approached Diller in 2012 with a proposal for a modest, curvaceous park pier. Diller rejected the idea, selecting Heatherwick Studio to design an undulating cultural island with mushroom-shaped columns, tree-shaded footpaths, and three performance spaces. Diller has been "deeply involved" in every step of development, according to Signe Nielsen, a principal at Mathews Nielsen, the landscape architect for Pier 55. "While they don't weigh in on every single detail, they weigh in on those things that matter," she says.

WATER VIEWS
In Austin, Texas, the Waller Creek restoration project, by Michael Van Valkenburgh Associates and Thomas Phifer & Partners, will connect existing parks and add new ones (below). In Manhattan, the Diller von Furstenberg Foundation plans to finance Pier 55, a $130 million park and performance space designed by Heatherwick Studio (bottom).





For two years, the Trust honed the design with Diller before announcing it to the public, sparking outrage from critics, who characterized the plan as a backroom deal shrouded in secrecy. "Decisions about what ought to be done with public space ought to be public decisions," says Princeton's Katz. "The fact that the super-wealthy can purchase those decisions makes a huge difference in the way we behave."

NOT ALL SOLUTIONS ARE PRIVATE

A 2011 proposal to build a two- or three-story addition atop the Mies van der Rohe–designed Martin Luther King Jr. Memorial Library in Washington, D.C. (the architect's last building, completed posthumously in 1972), was certainly ambitious. The library would have rented out the new space, using the revenue to subsidize a renovation of the existing building. But the trustees abandoned the plan earlier this year, after an appraisal found that it would generate minimal revenue and overly complicate the project. Instead, the city's capital budget will finance a $225 million expansion and renovation by Dutch architects Mecanoo Architecten and the Washington, D.C., firm Martinez+Johnson. A one-story addition aims to bring light and air into the building. "We decided it was better for the library to go it alone," says Richard Reyes-Gavilan, the library system's executive director. "It would have been exceedingly difficult to maintain the integrity of this landmark and build up three floors."

In fact, Washington, D.C., has almost never turned to the private sector to renovate or build its libraries, instead relying on city funds for construction, including those for two libraries designed by David Adjaye (ARCHITECTURAL RECORD, October 2012, page 136). "Overwhelmingly, the residents of the city and library users don't think libraries or recreation centers should be privatized," says Robin Diener, director of the D.C. Library Renaissance Project, an advocacy group.

The exception is the West End Library in D.C.'s wealthy Foggy Bottom neighborhood, part of a larger development designed by New York firm TEN Arquitectos on partly public land. Construction recently began on a $215 million mixed-use project there that will include 164 market-rate residential units built atop a 20,600-square-foot library with retail. On a separate parcel, the developer, EastBanc, will build a fire station, athletic facility, and 61 units—all but six affordable. (In exchange for the public land, a team led by the developer agreed to build the fire station and the library, a $25 million investment.) The city provided a $7 million low-interest loan for the affordable units. Public-private partnerships "are much more complex, but they bring up other opportunities that end up being really good challenges," says TEN Arquitectos' Enrique Norten.

The project took more than a decade to break ground. A 2007 city proposal to put the land out for bid fell apart, delaying the project until 2010. After EastBanc was awarded the site, the D.C. Library Renaissance Project, which is backed by consumer advocate Ralph Nader, lambasted it as a sweetheart deal that gave away public land to a private entity. As a result, the project was tied up in litigation for nearly two years until an appeals court threw out the case last spring.

THE ONLY WAY FORWARD

Sometimes a partnership is the clear option. The Port of San Francisco, for example, maintains the city's ports, like the famous Fisherman's Wharf and Pier 39. Some of the piers are deteriorating and used for municipal

IMAGES: COURTESY MICHAEL VAN VALKENBURGH ASSOCIATES AND THOMAS PHIFER & PARTNERS (TOP); PIER 55 INC./HEATHERWICK STUDIO (BOTTOM)





IN THE PUBLIC EYE A mixed use development in Washington, D.C. will include a 20,600-square-foot library by TEN Arquitectos (left). A Whole Foods Market and Public School 59, both designed by SOM, were part of a public-private partnership in Manhattan (below). The Exploratorium's new home on piers 15 and 17 in San Francisco, designed by EHDD, includes a glass pavilion with an observatory (bottom).



IMAGES: COURTESY TEN ARQUITECTOS, ARX SOLUTIONS (TOP, LEFT); © EDUARD HUEBER (TOP, RIGHT); BRUCE DAMONTE (BOTTOM)

parking, as saltwater relentlessly penetrates the piles. In recent years, the Port has turned to the private sector to pay for their restoration. In exchange, the Port gives the private entities incentives, like the chance to rent public waterfront land at a steep discount.

In 2013, the Exploratorium, a beloved science museum, opened its new location on Piers 15 and 17 near the Embarcadero. The design by the San Francisco firm EHDD created a 330,000-square-foot campus with a renovated shed and a new two-story glass pavilion that houses a restaurant and bay observatory. The deal that was hammered out with the Port gave the museum (a nonprofit) rent abatement in exchange for rehabilitating the aging bulkhead and rebuilding a pavilion. "What the Port gets is an important historic structure that is maintained and made available to the general public, that wasn't before," says Byron Rhett, the deputy director of planning and development for the Port. The museum gets 50 years of free rent.

The $300 million project was financed with private donations. The biggest challenge was restoring the integrity of the pier: for the first year of construction, 30 divers timed their work with the tide cycles. The designers and the museum also had to deal with myriad state and city agencies that restricted the use of colors, signage, and windows on the historic structure. And because the pier is state land, there had to be some public access. "A lot of agencies had to give us permission to do what we needed to do," says Marc L'Italien, a principal at EHDD. "There is a science to all that. Typically, as architects, that is not our forte."

And on East 57th Street in Manhattan, a public-private partnership allowed developers to build on a parcel of city land that was previously underdeveloped. The result was something that neither the private sector nor the public could have done on its own. Over a period of a decade, the developer, World Wide Group, worked with Skidmore, Owings & Merrill (SOM) to build three public schools, a Whole Foods Market, and now a 65-story residential building that is the last piece of a complex puzzle. "The city benefited tremendously by getting three beautiful schools on time, on budget, and off their books," says Julia Hodgson, the director of development for World Wide. "What we got was a site that was otherwise unavailable."

The model seems to be taking hold. In 2012, the City of New York released requests for expressions of interest for three similar Manhattan sites for developers to rebuild aging schools in exchange for development opportunities. As cities turn to these partnerships on a regular basis, architects and designers may find their place in the process shifting as well. "Our role is to act at some level as the arbiter between the public interest and the private interest," says Vishaan Chakrabarti, a principal at SHoP Architects, which has been involved in numerous public-private partnerships, including the transformation of the Domino Sugar Plant in Brooklyn into a 3.3 million-square-foot mixed-use development. "We put flesh on the bones." ■

33%

The average American city relies on the private sector to help it perform a third of its municipal amenities

Freelance journalist Ronda Kaysen writes the Ask Real Estate column for The New York Times.

The New Gilded Age

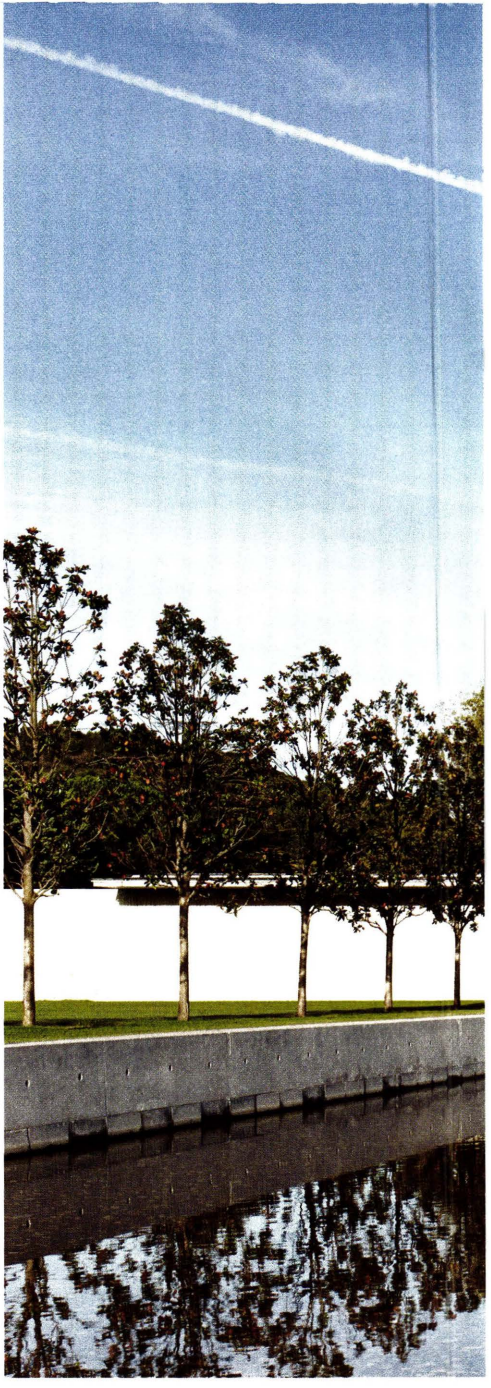
COLLECTOR'S EDITION

In southern France, a real-estate investor and art patron reimagines a vineyard where architecture and sculpture thrive.

BY SUZANNE STEPHENS

PHOTOGRAPHY BY ALAN KARCHMER



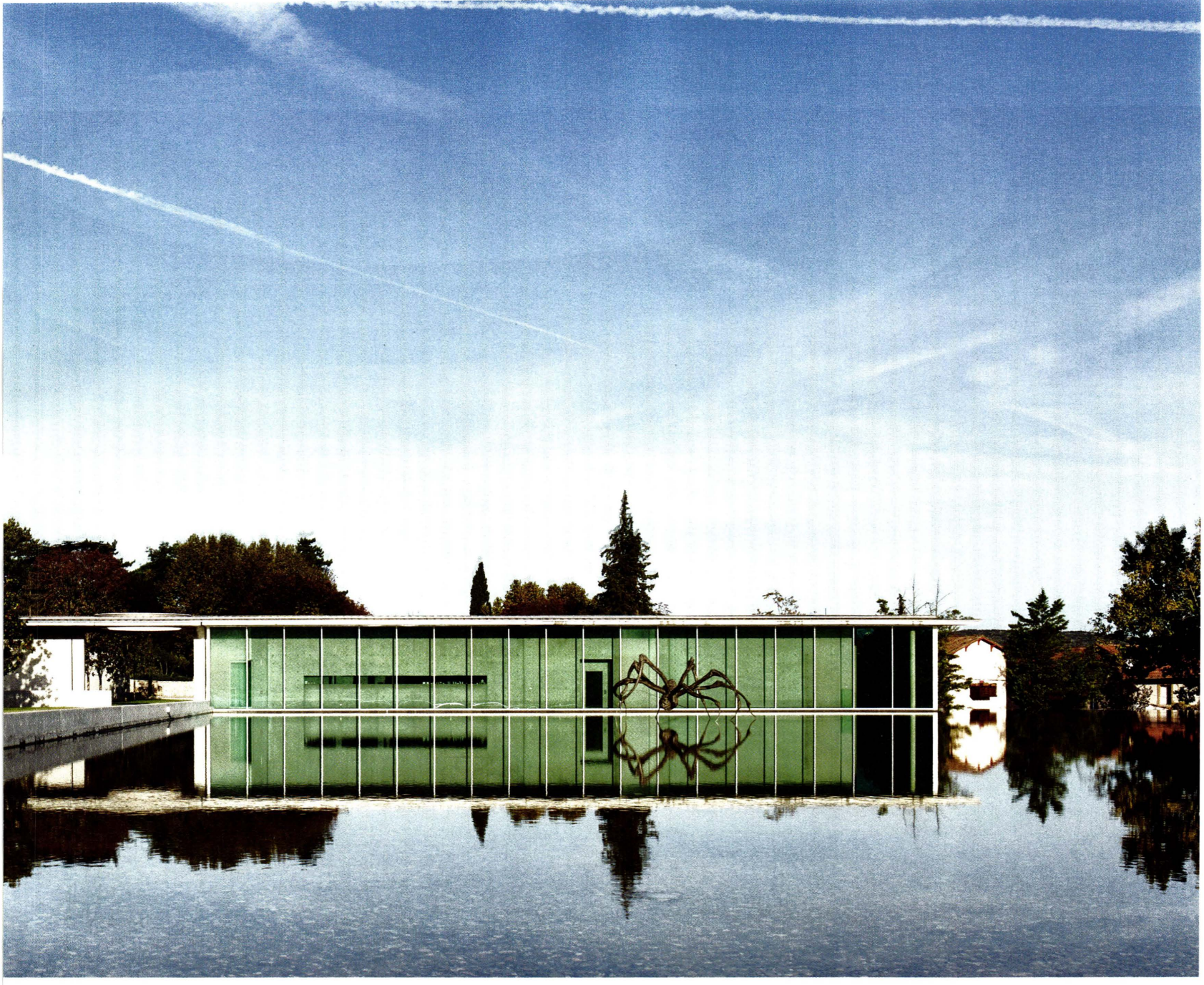


It's not often that art, architecture, and wine-making come together as a cultural statement. Unless, of course it occurs in France, which prides itself on its own special savoir vivre. Ironically, the person behind this sensual conjunction at Château La Coste in Provence, where a winery has been enlivened with works of architecture and sculpture, is an Irishman, Patrick (Paddy) McKillen. In 2002, McKillen, a real-estate investor and art collector, embarked on a special sort of patronage. He found the old vineyard with a country house dating to the 16th century among the verdant hills near Aix-en-Provence where he could be ensconced with his family for parts of the year. In giving new life to the viticulture of the 495-acre property, McKillen asked French architect Jean Nouvel to create a 30,000-square-foot facility for a two-part gravity-flow winery. Nouvel complied with barrel-shaped, aluminum-clad steel-frame structures, completed in 2008. But this was only the first step in a grand scheme. McKillen was soon busy turning the vineyards—where you might stumble over Roman ruins—into a contemporary art-and-architecture park open to the public all year.

According to McKillen, "The art and architecture projects here originated in response to this landscape, the region of Provence, and the relationship with wine." He sensed that sculpture and architecture would add a robust ambience to enrich the terroir (the particular soil and climate) that gives Château La Coste wines their distinct personality. So now oenophiles and cultural cognoscenti can see artworks by Louise Bourgeois, Richard Serra, Andy Goldsworthy, and Sean Scully, among others, interspersed with buildings designed by Tadao Ando, Jean Nouvel, Frank Gehry, and Jean Prouvé, while savoring blends of Grenache, Syrah, and Cabernet Sauvignon grapes.

To create the proper physical framework for this tripartite endeavor, McKillen called upon Ando (whom he had known since the 1980s) to come up with the master plan and design an art center as a gateway to the park. The 32,000-square-foot poured-in-place concrete building, V-shaped in plan, contains orientation spaces, a café, and other services. Completed in 2011, it juts out over a large reflective pool that sits atop a parking area for 120 cars. Additionally, Ando restored a centuries-old stone structure, enclosing it in glass for a chapel, and designed a timber shelter for his own art-

View additional images at architecturalrecord.com.



work "Four Cubes Contemplate Our Environment," both finished in 2011. As Ando comments about this unusual enterprise: "I hope the site will always feel alive—where one will find new discoveries and wonders with every visit."

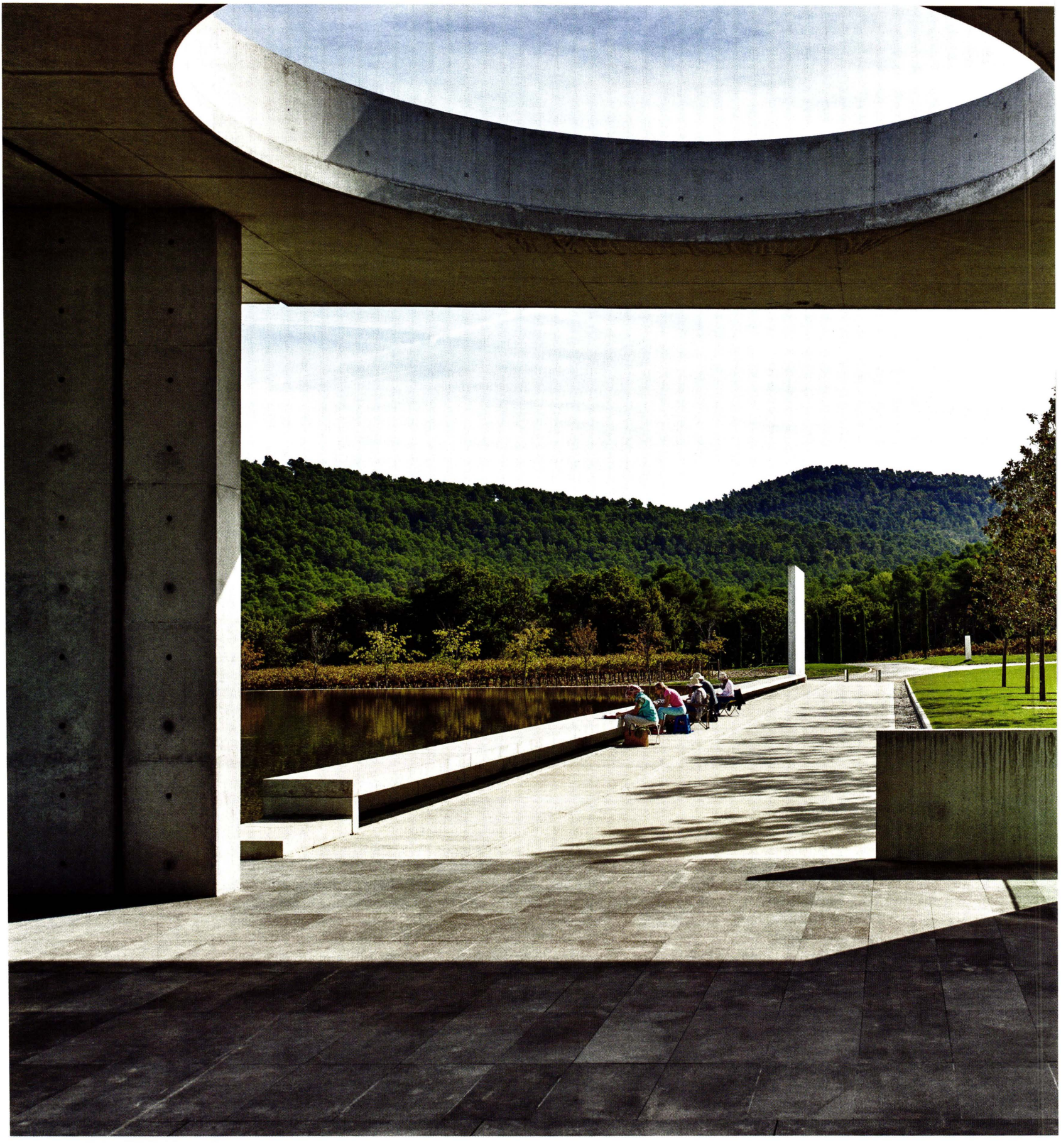
Nearby looms the energetic Serpentine Pavilion that Frank Gehry designed as a temporary installation in London in 2008. Gehry was delighted that McKillen, whom he knew, would bring the pavilion to La Coste. "I could not have been happier with the way it was sited in the new landscape," says Gehry about the shelter—part amphitheater, part promenade—composed of massive steel columns, a timber frame, and overlapping glass panels. "It looks as if it has always been there."

Historic modernism also has its place among the vines: McKillen purchased two prefab structures that Jean Prouvé had built in 1945 for post–World War II refugee housing in Lorraine. Restored with the help of the designer's grandson, Nicolas Prouvé, the cabins face each other across a small pond. Nearby sits an 18th-century teahouse from Vietnam.

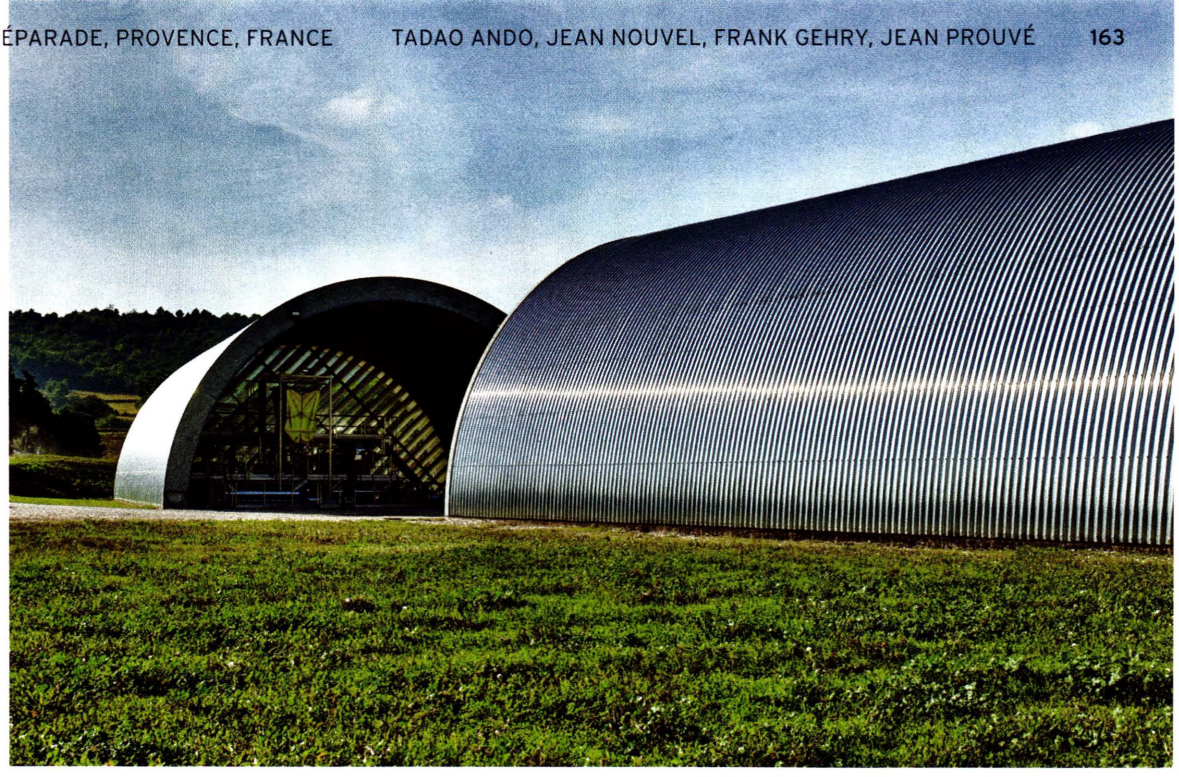
Château La Coste's architectural ensemble is expected to expand over time. A small pavilion designed by Renzo Piano to exhibit drawings is already in construction. Nouvel has come up with a subterranean building that will contain a wine bar and tasting room near his winemaking building. Gehry is working on a three-tower structure to house a sculpture by Tony Berlant. The list goes on: Richard Rogers has another small pavilion in planning, and concepts by Sou Foujimoto, Kengo Kuma, and Junya Ishigami are in development. An auditorium by the late Oscar Niemeyer is soon to go ahead, and a small hotel, Villa La Coste, is expected to open in 2016—designed by the Marseille firm of Tangram Architects.

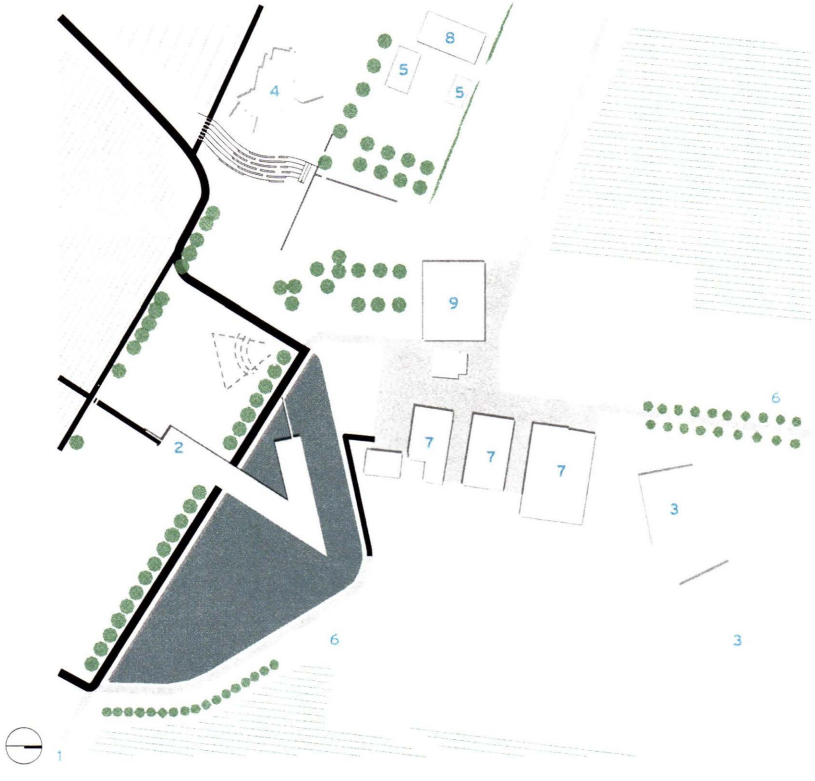
All told, the enclave is a remarkable testament to the vision of its founder. While McKillen resists discussing his involvement (or the budget), this form of cultural enlightenment suggests a less dry approach to the appreciation of architecture and art: the lure of libation seems to draw the public to a very intense ambrosia of aesthetic experience. ■

SERENE SANCTUARY
The owner of Château La Coste, Patrick McKillen, asked Tadao Ando to figure out how to welcome visitors to the architecture and sculpture park and winery. Completed in 2011, Ando's discreet gateway (opposite, left) directs guests to his art center (above). The V-shaped structure juts out over a shallow pond where Louise Bourgeois's "Crouching Spider 6695" (2003) hovers.









IN ARCADIA
Walkways with benches extend from Ando's poured-in-place concrete art center into the verdant landscape (opposite). Nearby, Jean Nouvel designed two barrel-vaulted structures in 2008 that are connected underground. They employ a gravity-flow production process for the biodynamically grown grapes.

credits

ARCHITECTS: Tadao Ando, Ateliers Jean Nouvel, Gehry Partners, Jean Prouvé

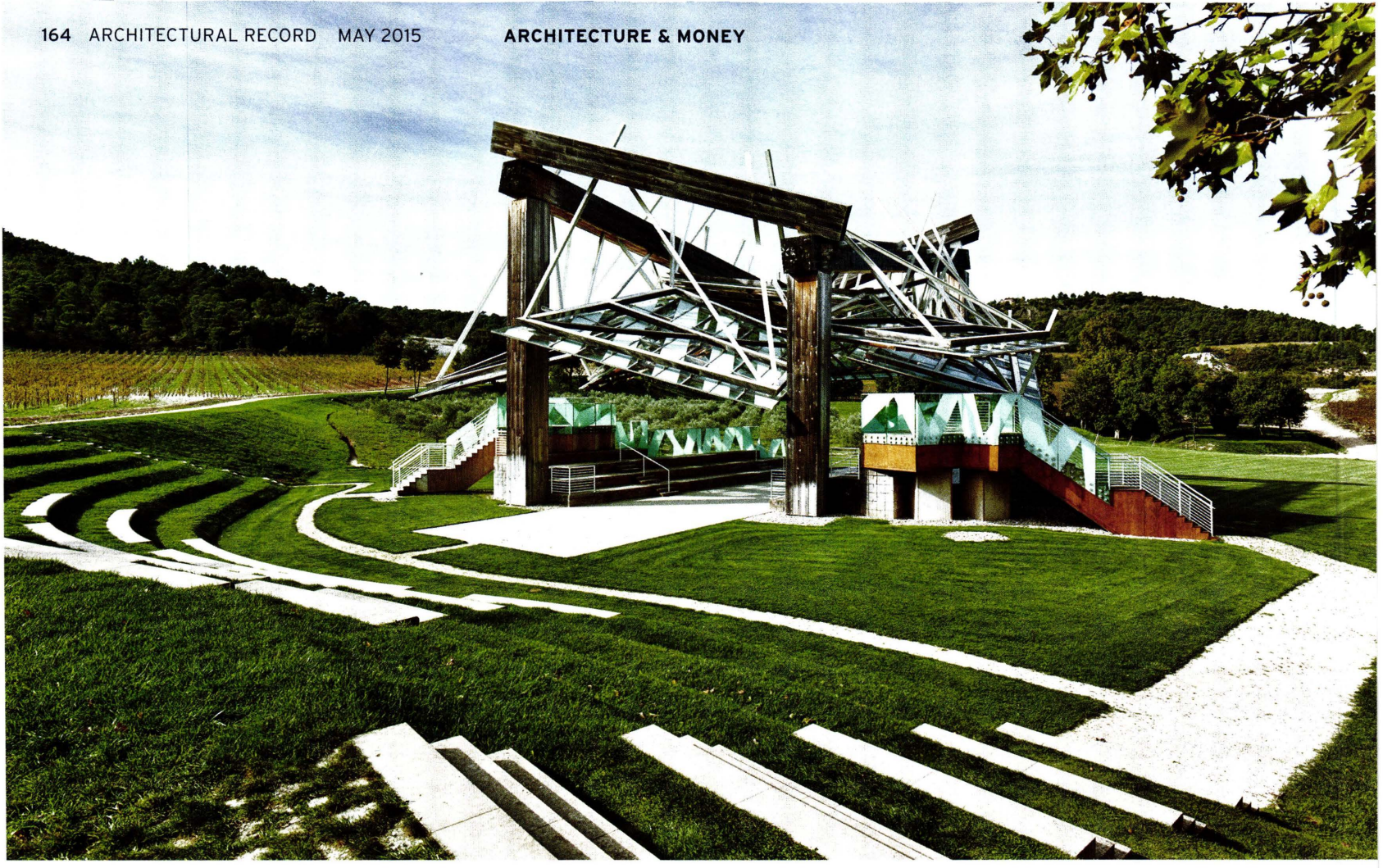
ASSOCIATE ARCHITECT: Tangram Architects (with Tadao Ando)

CLIENT: Château La Coste (Patrick McKillen)

SIZE: 495 acres

COMPLETION DATE: 2008 and ongoing

1 ENTRY
2 ART CENTER
3 WINERY
4 MUSIC PAVILION
5 PROUVÉ HOUSES
6 PARKING
7 VILLAGE (ADMINISTRATIVE, AGRICULTURAL, RESIDENTIAL)
8 VIETNAMESE TEAHOUSE
9 COUNTRY HOUSE





FOUND ARCHITECTURE
The Château acquired Frank Gehry's Serpentine Gallery pavilion in 2008 (opposite, top and bottom) after it had been exhibited in London. Designed for concerts, it is now surrounded by a grassy amphitheater. The Château also purchased two prefab structures that Jean Prouvé created in 1945 for refugee housing (right) and placed them to face each other across a pool. Ando discovered an old stone building nestled in a grove of trees (below) and restored it in 2011 for a chapel enclosed with glass.





The New Gilded Age

Too Rich, Too Skinny

A critic with an unlimited make-believe budget goes shopping for a lair at two of New York's new starchitect-designed high-rises.

BY MICHAEL SORKIN



A few weeks ago, the front page of the real-estate section of *The New York Times* featured two articles. One described the construction of the city's first "micro apartment" block, its teeny units ranging from 260 to 360 square feet. The second reported the fastidious mock-up in a Brooklyn warehouse of a single apartment, a prototype for those in a hyper-luxe tower rising on West 53th Street in Manhattan. The faux flat—which could probably fit 10 micro-units inside it—was estimated to cost a cool million and will be trashed after the finishes have been suitably agonized over. Here was the income gap made concrete, the tale of two cities, living large and living really, really small. I dream of Gini (Coefficient)!

What gives? The rise of the horrible, steroidal collection of towers near Central Park, with their absentee oligarch owners, their $100 million price tags, their limp starchitect designs, their shadows over the park, their public subsidies, and their preening San Gimignano competition for the most vertiginous views has launched a thousand critiques of the city's rampant up-bulking. How to write another? Let's go shopping! My beloved real-estate agent made appointments for me at the sales offices for the Bob Stern-designed 30 Park Place—at 926 feet, the tallest residential building downtown—and for 56 Leonard, the Herzog & de Meuron pile a few blocks north (and just a tad shorter at 821 feet).

The two condominium showrooms bear a strong resemblance to each other, beginning with the six little bottles of Pellegrino and Evian served on coffee tables in their cozy sales chambers, setting up the basis for the pitch to come: branding. My head spins with the names of the high-end fixtures and fittings that festoon every room! These represent nothing about cooking or pooping but are avatars of our crowd: no way we'd let that Gaggenau anywhere near an American Standard!

The main brand, however, is architecture. Lush catalogues, promotional films, and quotes from the architects (at 30 Park Place) and various critics (at 56 Leonard) emblazoned on the walls make clear that the lifestyle on offer is about much, much more than "chinchilla mink" marble countertops in the en-suite bath. Although a video for 56 Leonard depicting shards raining from heaven to form the building offers some serious entertainment, the more comedic 30 Park Place movie is better. My favorite scene shows "Bob" and "Larry" (the developer Larry Silverstein) *kvelling* in the backseat of the world's largest Mercedes about how a couple of boys from Brooklyn had crossed the river and gotten so fabulously *de luxe*. My second-favorite had the long-gone art studios of Mark Rothko, Jackson Pollock, and Jasper Johns popping out on a map of the area, followed by Bob's

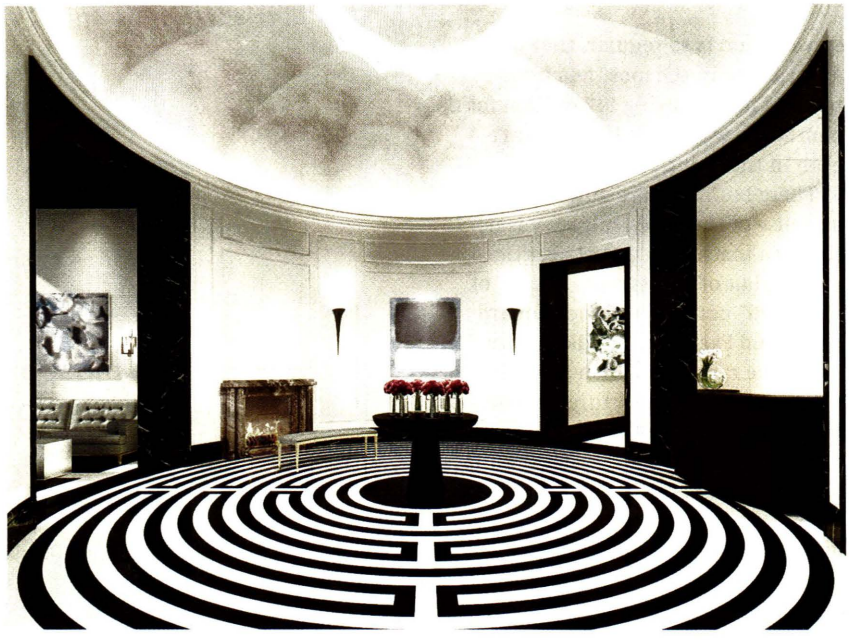


RENDERINGS: COURTESY HERZOG & DE MEURON (OPPOSITE); ARCHPARTNERS (TOP); PHOTOGRAPHY: JOE WOOLHEAD (BOTTOM)

chipper declaration, "If you want to know about real estate, follow the artists!" But the most painfully hilarious moment in our visit was live action: the sales agent's anxious reassurance that because 30 Park Place narrows towards the top, the Woolworth Building wouldn't really interfere with the East River views.

Thirty Park Place is a skinny limestone shaft that might be inoffensive elsewhere but here shamelessly diminishes Cass Gilbert's masterpiece next door. The newcomer nonetheless claims roots in the genius loci. As Bob writes in the sales brochure, "We're reinventing a New York tradition. 30 Park Place will recall the towers of the 1920s and '30s with an intricacy of shape and a strong skyline silhouette. You'll get a first impression that's a knockout, and then as your eye travels over the surfaces, you'll begin to see a depth of detail." When I first saw the cladding being attached to the building, I actually thought it was under-detailed—that, given the proportion of void to solid on the flat facades, there was not enough plastic activity and the surfaces were too inarticulate. But, as the building has grown, a crust of flattened froufrou has appeared: a breakout of architectural zits! Especially pustulous are the fat hood moldings (Stern's signature detail, indeed the one that launched his career when he stuck a squiggle above the door of the Lang House in 1974), glued on to signify the double-height joint between the hotel below and apartments—er, residences—above.

To learn something about how detail can emerge from and abet a larger concept, one need only look at a couple of other limestone buildings nearby from the period under reinvention. The first is the 1935 federal building and post office right across the street, designed by Cross and Cross in fulsome WPA style. That building has a fine, if not exactly graceful, solidity, with a wack decorative program based on a merger of deco zigzag and stripped-down nationalist/classicist iconography. Stars and stripes and angular eagles—not to mention fasces!—surmount a beefy frieze of triglyphs and blank-cartouched metopes, awaiting, one imagines, carved portraits of FDR (or Mussolini). The most brilliant exemplar of the era—and one of the greatest



MONEY TALKS If you're looking for a new pad in the city, the cheapest one left at Herzog & de Meuron's 56 Leonard is a $17 million penthouse near the top of the 821-foot-tall tower (rendering, opposite). At Robert A.M. Stern's 926-foot-tall 30 Park Place (rendering above and construction photo, below), you can still get a unit for $6 or $7 million.



skyscrapers ever—is Ralph Walker's immortal Irving Trust Building of 1931, at the top of Wall Street. It's modeled with enormous subtlety—slimming skyward without literal squared-off setbacks—and ascending from a base housing a convulsive, mosaic-covered banking hall (the work of Hildreth Meiere). None of Bob's retro Ralph (born in the Bronx) Lauren-esque décor here! At the building's peak, Walker placed four great windows from which the plutocrats in charge could gaze upon the world they owned, puffing on their Havanas. No detail is superfluous and everything flows from reinforcement and elaboration of the beautifully sculpted mass. This is how detail finds meaning—indigenously, not extraneously.

While one can still get a serviceable two-bedroom at 30 Park Place for $6 or $7 million, the cheapest thing left at 56 Leonard is a $17 million penthouse. Herzog & de Meuron's core conceptual idea is a Paul Rudolph-ish stacking of boxes at right angles such that rooms project into space, yielding a sense of flying. But this move is reserved for the top, the capital. The building is traditionally tripartite and the main shaft (where $5 million bargain-basement pads are now sold out) looks heavily value-engineered. What's built so far is a blandness of exposed concrete slabs and a tacky-looking glass curtain wall. The projecting spaces on the shaft are balconies now, add-ons, not rooms. While staggered to produce something of the Lego conceit that appears up top and on a few lower floors, they have glass railings and disappear into the slabs, leaving their rhythm legible only when you're close to the building and see them from below. And, since their

syncopation is so regular, they don't always land in the most felicitous places. I'm not paying $17 million for a penthouse where the balcony ain't even in the living room!

These buildings are vulgar and have no sense of the civic. Vulgarity is not simply a matter of taste or artistic quality, but of excess and flouting of "civilized" norms. Both the Leonard Street and Park Row buildings contribute to the rampant selfish up-scaling of the city, using architecture as camouflage. However fine the design, they're too damn big and too damn expensive, another driver of the flight of bodegas, diners, artists, and rent-regulated hangers-on. Rather than offering any solution, this new housing only accelerates our housing shortage. While we've debated the meaning and conscionability of the "poor door" that has been a by-product of efforts to achieve a measure of distributive justice via inclusionary zoning, 56 Leonard offers its own novel twist: an Anish Kapoor door! This is a form of excess that demands regulation, perhaps a revisit to the sumptuary laws of old.

While few lament the passing of the era of generic white-glazed-brick wedding-cake apartment houses from the 1950s and '60s, such buildings did have the distinction of being shaped by a clear idea of public benefit—light and air on the street, for example—and ranked the value of ensemble over today's narcissism of big differences. Back in the postwar years, there was an implicit consensus between the municipality and private developers that there would be great efforts to build for both the middle class (including returning veterans) and for the poor. The "projects" constructed by the New York City Housing Authority and enormous complexes like Stuyvesant Town or Parkchester were essentially indistinguishable as architectures. Say what you will about "towers in the park," but such developments were predicated in egalitarianism, altogether different from towers looming over the park. While it's a mistake to think that this problematically uniform planning was ever the *sine qua non* of the *good* city, it did represent an idea about the *shared* one, about values in common, about convergence. We no longer mind the gap. ■

The New Gilded Age

TOP 10 BIG-TICKET BUILDINGS

The most expensive projects under construction in the U.S.*



PROJECT: Apple Campus 2 **COST:** **$2.5 billion** **ARCHITECT:** Foster + Partners
LOCATION: Cupertino, CA



PROJECT: Salt Lake City International Airport Terminal Redevelopment Program
COST: **$1.8 billion** **ARCHITECT:** HOK **LOCATION:** Salt Lake City

RENDERINGS: COURTESY CITY OF CUPERTINO (TOP); HOK (BOTTOM)



PROJECT: California Pacific Medical Center Van Ness and Geary Campus Hospital for Sutter Health
COST: **$980 million**
ARCHITECT: SmithGroupJJR Partners
LOCATION: San Francisco

4

PROJECT: Nordstrom Tower
COST: **$957 million**
ARCHITECT: Adrian Smith + Gordon Gill Architecture
LOCATION: New York City



PROJECT: New Atlanta Stadium
COST: **$948 million**
ARCHITECTS: HOK, TVSA, Goode Van Slyke Architecture, Stanley Beaman & Sears
LOCATION: Atlanta

PROJECT: Comcast Innovation and Technology Center
COST: **$931 million**
ARCHITECTS: Foster + Partners, Kendall/Heaton Associates, Gensler, Daroff Design
LOCATION: Philadelphia



PROJECT: MGM National Harbor Casino
COST: **$925 million**
ARCHITECTS: HKS, SmithGroupJJR, Hamilton-Anderson Associates
LOCATION: Oxon Hill, MD

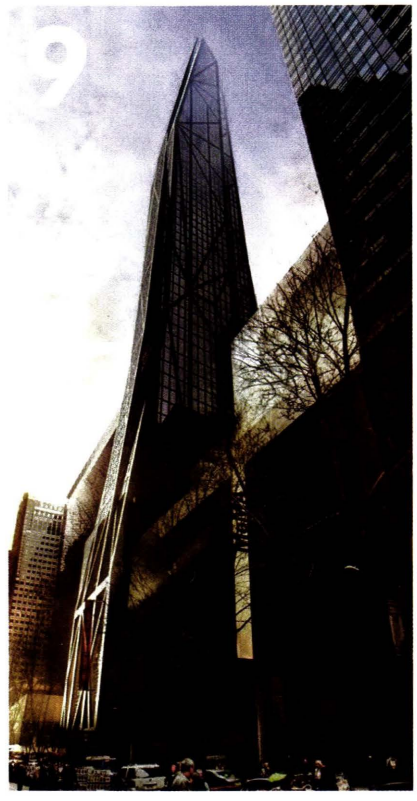


17.1M

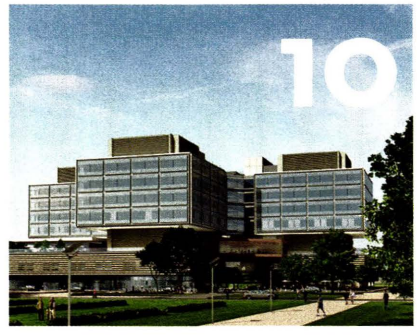
The total number of square feet represented by the Top 10 Big Ticket Buildings under construction

8

PROJECT: High Performance Computing Center II
COST: **$861 million**
DESIGN-BUILDER: Hensel Phelps/Kiewit
LOCATION: Fort Meade, MD



PROJECT: 53W53
COST: **$861 million**
ARCHITECTS: Ateliers Jean Nouvel, Adamson Associates Architects, SLCE Architects, The Office of Thierry W Despont
LOCATION: New York City



PROJECT: New Stanford Hospital
COST: **$830 million**
ARCHITECTS: Rafael Viñoly Architects, Lee, Burkhart, Liu
LOCATION: Palo Alto, CA

RENDERINGS: COURTESY SMITHGROUPJJR (TOP, LEFT); HOK (MIDDLE, LEFT); FOSTER + PARTNERS (MIDDLE); MGM (BOTTOM, LEFT); HAYES DAVIDSON FOR HINES (TOP, RIGHT); RAFAEL VIÑOLY ARCHITECTS (BOTTOM, RIGHT)

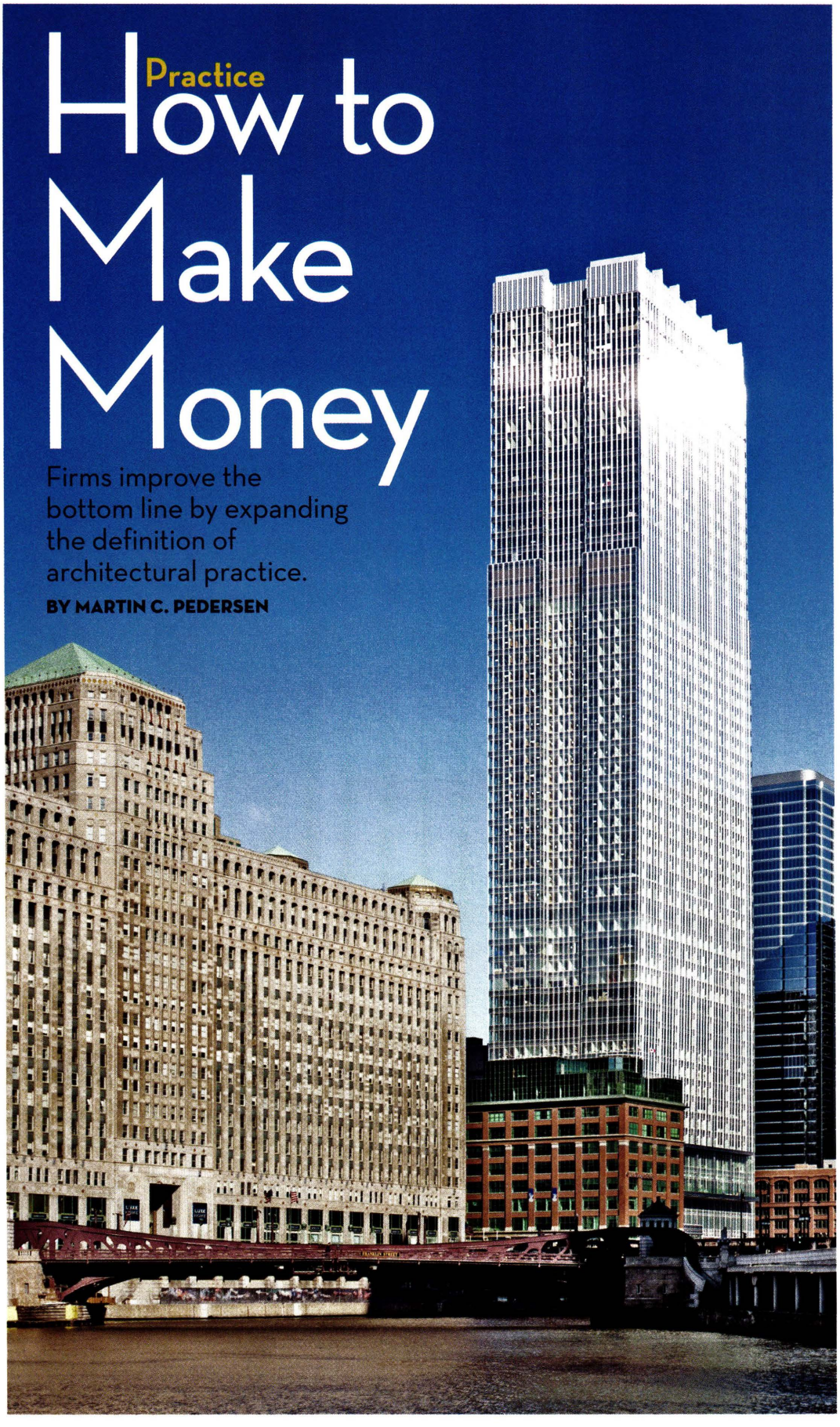
*These projects are ranked on the basis of hard construction costs (including labor and materials, but excluding equipment, land, and design fees). Construction for these projects started between January 1, 2013, and February 28, 2015. The data were collected by Dodge Data & Analytics.

Practice

How to Make Money

Firms improve the bottom line by expanding the definition of architectural practice.

BY MARTIN C. PEDERSEN



PHOTOGRAPHY: © SCOTT MCDONALD/HEDRICH BLESSING

We all know the complaints: too many architects routinely accept fees for projects they know won't pencil out. They enter unpaid competitions. They give away services, or they compete for jobs based solely on price. And they commit this economic hara-kiri in an environment already beset by stagnant fees, risk-averse clients who are allergic to innovative design, and a construction process increasingly dominated by cost-conscious contractors.

While bottom-feeding architects are as old as the profession itself, the business challenges facing most mainstream firms are unprecedented. Like so many other industries, architecture is undergoing profound change, much of it driven by technology, which in turn is undermining the economic foundation of the profession. How architects get paid—and what they get paid for—is in flux. The smartest and most profitable firms are identifying new opportunities and creating a broader definition of what constitutes architectural services.

The new normal starts with the fundamentals of any business, in any era: cost and price. "Successful firms do one of two things," says Scott Simpson, a senior principal at the Greenway Group and coauthor, with James Cramer, of *How Firms Succeed 5.0*. "If they use a commodity business model, they need to have the production process down to a science. They control the cost side, which means they raise their profit margin. Or they find a way to attract higher-paying customers by offering something that clients can't get someplace else. That is a value-proposition argument."

The most successful firms—especially the stars who can command a premium—sell the value of design. But much of the profession still labors under the commodity model. The traditional, decades-old fee structure—which pays architects a percentage of a project's budget for the creation of design and construction drawings—is under attack and is hobbling architects still clinging to it.

The system worked fine for the

For Top 10 Business Tips for Architects, go to architecturalrecord.com.

better part of the 20th century, when most architects charged the standard fees recommended by professional associations. But, in 1973, the Federal Trade Commission outlawed fee scales, upending the profession. "Once that changed, architects—who were never trained in business or had any real sense of what they were selling—were thrown into this cauldron of hourly fees and hourly reimbursements," says Frank Stasiowski, president and CEO of PSMJ, a research, training, and consulting firm based in Newton, Massachusetts. "That was very good in the 1970s, when you had fleets of designers, drafters, and model makers." In the ensuing decades, digital technology has drastically reduced the number of hours (and people) it takes to produce drawings. This created efficiencies but set in motion an inexorable erosion of fees based on hours. "It's why, around 1980," he says, "I started predicting the demise of the profession, based on that model."

So how do firms escape the commodity trap and achieve what management consultants call "value pricing," a fancy term for something fairly basic: a profitable fee? It helps to understand the needs of your clients and speak a common language. Pickard Chilton, a 50-person New Haven, Connecticut–based firm specializing in commercial buildings for companies like ExxonMobil, Conoco, and Chase, realizes that large multinational corporations live and breathe metrics. "We understand what our clients' business objectives are," says founding principal William Chilton.

The firm creates a case for its schemes, backed by numbers. "A lot of architects will focus on how many design awards they've won—and we've won hundreds—but we track the financial performance of our buildings," adds Jon Pickard, another founding principal. "We've been able to create buildings that command the highest rents in their markets. This makes the conversation with our clients, many of whom are developers, a little easier."

Combined with its ability to frame a business argument, Pickard Chilton is also organizationally lean. The firm serves exclusively as a design architect, teaming with architects of record who produce the construction documents. This allows the practice to stay small and nimble, even though it specializes in large buildings. "If we were a full-service firm, we'd be 350 people and dissipated in our focus," says Pickard. "We don't get distracted managing a legion of people and drafting thousands of documents, which is the commodity portion of the business."

On the other end of the spectrum from the design-only business model is a strategy long thought to be fraught with risk: design-build. Despite the trepidations of the profession, some type of holistic approach—whether design-build or integrated project delivery (IPD), which ties the owner, contractor, and architect into a single project entity—is becoming more attractive, given emerging technologies and the vast potential for cost savings. Unfortunately for architects, design-build as it's typically practiced is a bit of a misnomer. The process might more accurately be called "build-design," because it's contractor-led and motivated primarily by cost-cutting.

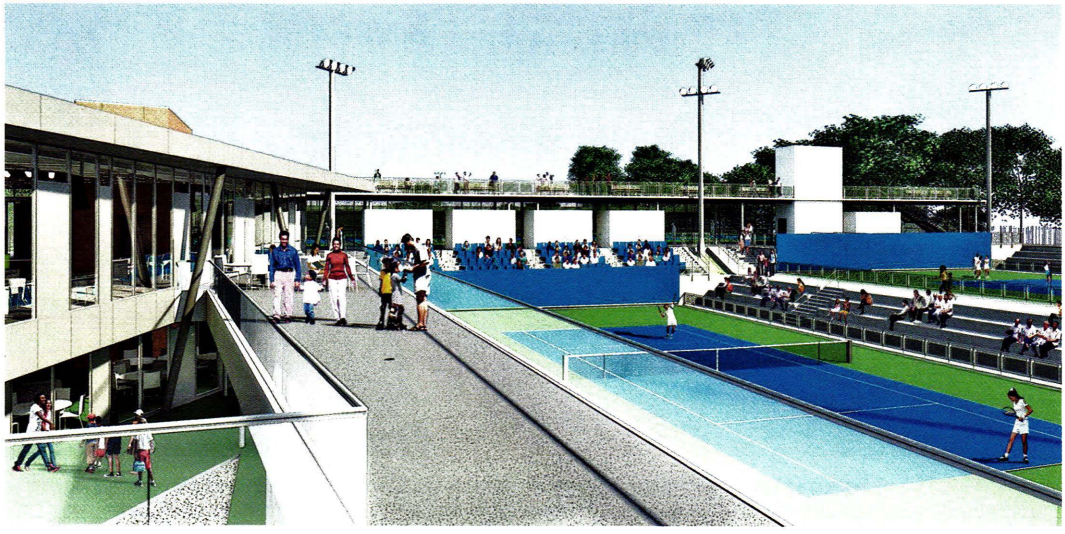
But the architects who drive the design-build process swear by it. They maintain that, when overseen by architects, it results in both better buildings and significantly more revenue. "As a business model, it is the only answer for architects," says Peter Gluck, founder of Gluck+, a 40-person New York–based firm. "There's no way you can build an architecturally distinguished building with a standard architectural fee. The people who do good buildings that way do it on the backs of young architects."

VALUE PROP
Pickard Chilton maintains that its buildings deliver a higher return. Last year, its 300 North LaSalle (opposite), a Chicago office tower completed in 2009, sold for a reported $850 million—a record for an office building in that city. Gluck+ says design-build reduces construction-phase inefficiencies. On the Cary Leeds Center (below)—a nearly complete clubhouse for a nonprofit that offers tennis lessons and tutoring to New York children—the approach helped the firm avoid costly change orders.

Contractually, Gluck maintains two business entities—design and construction—and says the construction portion is exponentially more profitable. "Let's say an architect makes a 10 percent fee," he explains. "The AIA used to recommend keeping 10 percent as profit, so that's 1 percent of the cost of the building. Contractors make 10 percent for overhead *and* 10 percent for profit. That sounds to me like the contractor makes 10 times as much as the architect. It's a bit of an exaggeration, but not by much."

Gluck+ is essentially being rewarded for reducing construction inefficiencies, which on a typical project can run as high as 35 percent, according to Greenway's Simpson. "We're wasting four times as much money in construction as we're paying architects in fees," he says. "But that's good news, because if we can design more efficient processes, some of those savings can go back into the architect's profit pool."

And while design-build does place more responsibility on architects, it does not entail, contrary to popular belief, more legal risk, says Gluck. "For some reason, people think that contractors have lots of liability," he says. "Unless they do something fraudulent, they have insurance. But the liability insurance on a construction project is included in the budget. It's a line item, like the plumbers," he continues. "As an architect, I pay over $100,000 a year in insurance. But I build all of my buildings, and don't pay a nickel for



RENDERING: COURTESY GLUCK+

insurance as a contractor."

Still, design-build is not for everyone. It is a fundamentally different way of practicing architecture, with a steep learning curve. No company becomes a design-build firm overnight. For some architects, IPD holds more promise. The joint arrangement and shared responsibility often result in quality design and construction efficiencies, which architects can then be rewarded for. "We're working under an IPD contract at Brown University, where there's additional profit built into our compensation model for broad-based performance," says James Timberlake of KieranTimberlake, a 100-person firm based in Philadelphia. "Part of that is energy efficiency. Part of it is overall project performance, in terms of time, money, and quality. These performance-based incentives are starting to become increasingly common."

Capturing additional sources of revenue typically requires negotiating skills, research, and ingenuity. PSMJ's Stasiowski once worked with a firm that designed a 20-acre residential development and negotiated, in addition to its standard fee, a 1 percent royalty on the sale of each house for a 99-year period, reflecting the increased value of the property as a result of its design. "Why not get a piece of the action every time a real-estate agent gets her 6 percent fee?" he asks. "That's the kind of creative thinking that the profession needs."

Increasing the number of revenue streams is also crucial. Marmol Radziner, the Los Angeles–based architecture, interiors, landscape, and construction firm, offers a diverse portfolio of services. Founded in 1989 by Leo Marmol and Ron Radziner, the firm started out building its own projects out of necessity, since it lacked access to quality contractors. Over time, that effort has morphed into a robust 120-person department that includes design-build services (for most of their own projects), construction (for other architects and developers), furniture, custom cabinetry, and even jewelry. Perhaps more important, the department acts as an idea incubator for both the construction side and the 85-member architecture, interiors, and landscape-design component. "There's a somewhat inconsistent ebb and flow to the work itself, and being diverse helps balance that out," Marmol says. "That diversity, from a business standpoint, provides financial stability."

35%

How high construction inefficiencies can go on a typical project

Seizing an opportunity to take full advantage of Southern California's hot housing market, the firm recently set up a new development unit, dedicated to high-end houses. "We want to control the whole process," Marmol says. "So we're purchasing the land, developing the architectural program, and marketing the houses."

This broader, fluid definition of architecture is exactly what the profession needs to embrace as a survival strategy. "We must change not just the mechanics of what we charge but the whole thought process behind it," Stasiowski says, adding, "Architects need to get out of the drawing business and into the consulting business. And if we do that, then we have to think like consultants and base our fees on the value we create for our clients. And those fees, in some cases, might have nothing to do with the number of hours it takes. That's a major mental shift." ■

Martin C. Pedersen, former executive editor of METROPOLIS, *is a New Orleans–based writer and editor.*



SOUP TO NUTS Among Marmol Radziner's many design-build projects is a Beverly Hills house for an investment advisor. The firm recently launched a residential-development unit and will do everything from buying the land to marketing the completed houses.

PHOTOGRAPHY: © BARRY SCHWARTZ

Practice

IS BIGGER BETTER?

Architects worry that design takes a back seat when firms merge and expand.

BY JAMES S. RUSSELL, FAIA

Last year, Los Angeles–based AECOM merged with engineering giant URS and became a firm with $19 billion in revenues and 100,000 employees. Not only does it design and build projects in 150 countries, it can finance and operate them. Is the megafirm the future of architecture?

No, it turns out. While some prominent firms continue to grow rapidly by buying other firms (including IBI Group, Stantec, Perkins+Will, and HDR), the pace and scale of consolidations may be leveling off, though no one tracks the numbers.

Mergers are less common than acquisitions. Alexander Cooper, principal at New York firm Cooper Robertson, which has turned down such marriage proposals, sums up the difference: "If it's a merger, there's no money. If it's an acquisition, someone has money."

Mergers and acquisitions (M&As) are forcing a reconsideration of practice, however. Design can seem incidental to the management and delivery of a wide range of services that begin with brand-identity consulting and may extend into construction and facilities management. Large practices number in the thousands or tens of thousands of staff. "Small" might now be deemed fewer than 100. Problems with merging cultures, retaining valued staff, blurred identity, and loss of nimbleness have made firms wary of M&As.

Firms acquire other firms to add expertise and diversify project types, disciplines, and locations. Atlanta-based Lord Aeck Sargent (LAS) saw slow growth in the higher-education projects the office is best known for, so it acquired Brock Green Architects, which was experienced in private development. Those skills also have proved handy as more colleges and universities build using public-private partnerships. LAS enhanced its expertise in historic preservation with the acquisition of TWC Architects, based in Austin, Texas, and added a new discipline by acquiring an urban-design practice, Urban Collage. With six offices, the firm now employs 150. "We compete with a lot of different-sized firms, depending on the practice area," says president Joe Greco. "We can bring a depth of resources to historic preservation that small competitors can't match, and compete with the behemoth firms in science and technology."

"Many firms are acquiring to gain leadership," says James Cramer, chairman and founding principal of the Greenway Group, a consultant to architects. Says Phil Harrison, president of Perkins+Will, "In acquisitions, you get the relationships, the portfolio, the people."

Large firms tend to acquire in building types demanding deep and varied expertise, such as hospitals, labs, and infrastructure projects. And that expertise tends to drive global expansion, because it is in fast-developing countries where the new challenges and multibillion-dollar projects are. (Of course, acquiring a firm in a desired location is often the fastest way to gain a beachhead.) Global cities present invigorating design challenges you don't find in America, says Peter Cavaluzzi, a principal who came to New York–based Perkins Eastman through its merger with Ehrenkrantz Eckstut & Kuhn (EEK). Joining the much-larger firm (now 900) allowed EEK to take its urban-design expertise deeper into building design and construction. "The fast-growing parts of the world are architecture's cutting edge," he says, "and you can't be an international player as a 10-person firm."

Big firms serve clients with high expectations for well-integrated services that can meet punishing schedules and demanding budgets. "They prefer a local presence," says Stanis Smith, an executive vice president at Stantec, which is one reason the Toronto-based engineering/architecture firm has acquired 75 practices since 2000 and grown to 15,000 staff in 250 locations, many of them in small markets. He says the traditional team structure, with an architect herding a string of consultants, too often ends up as an awkward "marriage of convenience," in which communications are poor, as is the understanding of the locality or client culture.

Though growth through acquisitions seems to promise stability, profits, and challenging projects, the process of firm integration can be traumatic. Edinburgh-based RMJM, for instance, grew to 1,200 people with 14 offices worldwide, winning iconic projects like the Gazprom tower in St. Petersburg. It then sank under a mountain of debt when the crash came, owing as much as $36 million. RMJM survived, but one of its key acquisitions, Hillier Architecture of Princeton, New Jersey, closed, and RMJM shareholders lost millions.

Few collapses are so precipitous. Failure is more often measured by expectations that go unmet in the form of shrinking revenues, longtime clients who take work elsewhere, valued staff who depart, a muddled identity. And some practices are poor prospects for acquisition. "A lot of firms are looking to be bought because they haven't figured out a leadership- or ownership-succession strategy," says Diane Hoskins, the co-CEO of Gensler. Founder Art Gensler set up an employee stock ownership plan (ESOP) to ease succession, she says.

Gensler has grown to 5,000 employees in 46 offices, with annual revenues of $1 billion, without acquiring. That's because, Hoskins says, "it's very challenging to merge companies and create a consistent culture." Cramer, who consults on M&As, adds, "acquisitions are too often looked at as a financial transaction rather than a strategic



transformation." He thinks about half are shaky. "Too much time is spent on financial due diligence and too little on cultural due diligence." By this he means identifying compatibilities in capacity, expertise, and workplace culture. Merged practices "have to give people a reason to get up in the morning," says Richard Drake, a principal in Perkins Eastman's San Francisco office.

Truly understanding firm culture is difficult because key qualities cannot be measured objectively. "It is a bit of a crapshoot," says Greco of LAS. "It's not an easy process to actively integrate two cultures and bring out everyone's viewpoints." Of its four acquisitions he regrets only one. "We were excited about the opportunity and didn't vet the personality and leadership of the smaller firm well enough."

Staff reviews on the jobs website Glassdoor often complain that "churn," "upheaval," and "layoffs" are common in rapidly acquiring firms as they winnow duplicative staff, replace existing talent with new, and try to merge cultures. As time goes on, some cite long workweeks without extra compensation and pressure to bill excessive hours to clients to shore up revenues.

Many smaller firms hear horror stories told by job applicants and acquired collaborators, which has made them wary of acquisitions. SOM has seen many of its valued consultants in lighting, landscape architecture, and cost-estimating in unhappy marriages to large firms. "People leave to form their own firms, and some lose the boutique identity that attracted us to them," says T. J. Gottesdiener, a managing partner in SOM's New York office.

The uncertainty undermines what for many are the selling points of working in a large firm: good pay and benefits, a good work–life balance, and a reliable supply of challenging, diverse projects. The commonly heard expression, "Three years and you're out," refers to unhappy leaders who choose to leave as soon as their contractual obligation to the acquiring firm expires. Says Cramer, "I would argue that, to continue to be competitive, you have to prove you can keep valued people at a mid- or senior level."

Though small firms long for the workload stability that large firms can achieve, the management of the multiplicity of talent spread globally can be extraordinarily difficult. A large firm can form a 100-person team of engineers and architects for an infrastructure project in Hong Kong, but day-to-day it finds it has too many mechanical engineers in Singapore and not enough in Chicago. It's why staff complain of frequent layoffs even as their firms appear to grow overall. "Scale itself is not a competitive advantage," says Cramer. "There needs to be a range of competencies. The firm must care about financial responsibility; it must be competitive, deliver the best design, and be a great place to work—a series of core values that are either aided or threatened by a given business combination."

There is a common understanding that the handful of very large, publicly traded firms must continually grow to please shareholders, which is achieved fast through acquisitions. "The financial interests of stakeholders are not wholly connected to the professional interests of architects," says Perkins Eastman's Cavaluzzi. "The firm wins large projects, which improves the stock price, but they do it by undercutting the competition, then abandoning the project because it can't make a profit. It's a gaming of the system so that a design practice can serve the master of being publicly held."

75

The number of practices Stantec has acquired since 2000

While architecture at the highest level is traditionally defined by experimentation and technical innovation, these values can be hard to maintain as firms grow. "Not to disparage any big firm, but the nimble, hypercreative culture we thrive in is hard to do in a big organization," says Dan Meis, who has formed sports-facility design

IMAGE: © CHRISTIAN MONTENEGRO/DUTCH UNCLE

groups within three large offices: NBBJ, Aedas LA, and Woods Bagot.

Big-city sports facilities would seem a good fit for big firms, but the perpetual buying and selling of sports specialists reflects a high-profile but mercurial market. Meis reluctantly walked away from the sports practice he had built within NBBJ when suddenly slack demand began costing the team its talent base. "That's when I realized the downside of a big firm. It's not easy to keep the monster fed with $500 million projects." After trying to rebuild his team at two other firms, he concluded he was better off leading his own New York–based sports-design boutique, Meis Architects, that would work with larger firms when needed.

The big firm can be seen as a robotic drone stamping out commodity buildings for faceless clients, but AEC giants are recognizing that design is a selling point. "The value of design is increasing in a very broad sense," says Perkins +Will's Harrison. SOM's Gottesdiener asks why the names of star architects come up so often. "Clients are seeing value," he says.

Keeping design front and center is a key reason that 1,000-person SOM, with 10 offices, half of them in Europe and Asia, does not desire to be significantly larger and doesn't acquire. Gottesdiener sees technology permitting smaller firms to do more. "Long term, larger firms are going to find themselves too bulky and unwieldy." Thanks to building-design technology, "our competition is now becoming firms smaller than we are."

The degree to which design gets subsumed at big firms assembled from many disciplinary parts touches on the much-debated question of architecture's relevancy. Architecture is supposed to solve functional problems, but also to contribute to culture and express it; it is supposed to create an inviting civic realm, even when it is assembled from individual private investments; and it should bring history alive, and enhance the environment. With many large firms led by nondesigners whose role is to create shareholder value, can big firms speak design's language and lead these conversations with giant and influential public and private clients? That will be the true test of M&As. ■

Practice

Architects Give Back

Through corporate foundations, architecture firms are funding students' research travel. But does supporting design education require a nonprofit structure?

BY DAVID SOKOL

Architects have many avenues by which to do good, such as providing pro-bono services to nonprofits and mentoring young designers. Some firms have set up their own private foundations, primarily as a way of influencing design education.

Established in 1979, the SOM Foundation is the oldest-known private foundation created by an architecture firm, and it has distributed almost $2 million in travel and research fellowships to students and recent graduates. From the outset, the mission of the foundation was to improve American design education, explains firm partner Mustafa Abadan, who today chairs the 501(c)(3). "This is a purely philanthropic gesture. A firm is not entirely based on profit motive."

According to the Foundation Center, a New York–based information service, a private foundation is a self-managed nonprofit that serves the public good using a principal fund or endowment. The SOM (Skidmore, Owings & Merrill) Foundation exemplifies what is known as a corporate foundation. This kind of private foundation receives "funds from their parent companies, although they are legally separate entities," as the Foundation Center describes the classification. (Other types of foundations include private operating foundations and individual or family foundations.)

When Abadan took over SOM's foundation in 2006, he directed an overhaul of its travel fellowships, with a $50,000 SOM Prize in Architecture, Design and Urban Design and a $20,000 runner-up travel fellowship largely replacing a series of smaller travel grants. Awarding fewer but bigger prizes meant that more money could be shifted into direct action, Abadan explains, adding that the decision "elevated" the SOM Foundation's work over other travel fellowships being established at the time. The award allows recipients to "delve more deeply into a subject and gives our program a public face." Indeed, fellows' research is all publicly accessible through SOM's archive.

In 2014, MIT graduate Erioseto Hendranata received the SOM Prize to study resilience on three continents, while Harvard GSD alumnus Max Wong earned the $20,000 travel grant to analyze the pros and cons of open-plan interiors. Graduating students of architecture, design, urban design, and structural engineering, of any nationality or previous work experience, are eligible to apply. Applicants submit a portfolio, research proposal, and travel itinerary for review by a jury of between three and five professionals from inside SOM and without.

While the SOM Foundation's giving strategy may have been influenced by wider industry trends, it operates independently, legally and financially. As a tax-exempt organization, it must file a version of the Form 990 with the IRS. In the fiscal year ending in August 2014, the SOM Foundation had almost

For information on fellowships, go to architecturalrecord.com.

$3.9 million in assets. Abadan says its endowment largely comprises funds from SOM's 1995 sale of the landmark Charnley House in Chicago to the Society of Architectural Historians. Also included in that figure is $55,000 in charitable contributions, including donations from SOM partners, schools, and other entities like the Wood Products Council, as well as honoraria from staff speaking engagements.

As Abadan observed, a number of other architecture firms have now launched similar foundations. Kohn Pedersen Fox (KPF) hatched its eponymous foundation in 2006 with its own traveling fellowship. Three grants are awarded to undergraduate and graduate students nearing completion of their studies at one of 26 schools. These prizes are distributed as an initial $8,000 to fund summer travel, with another $2,000 delivered after fellows turn in their research. All candidates submit a portfolio and a travel itinerary with statement of intent to five jurors, three of whom work outside KPF.

The fellowships are not the only initiative of the KPF Foundation. According to the group's most recent IRS filing, it has a more expansive scope. In 2013, the foundation distributed more than $325,000, and the largest donations reflect its deep alignment with the profession and with New York—its home base. City institutions such as the Center for Architecture, the Architectural League of New York, and Lincoln Center for the Performing Arts each received gifts topping $20,000.

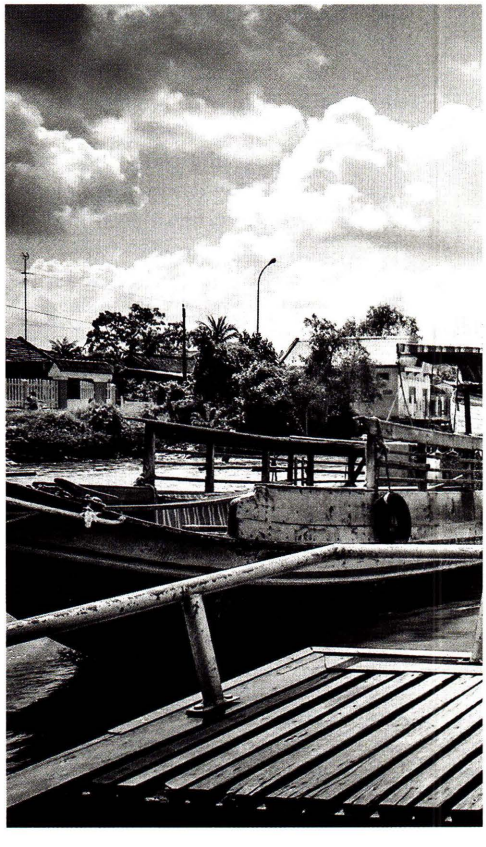
Other foundations have similarly diversified giving strategies. The David M. Schwarz Architects Charitable Foundation, the philanthropic arm of the Washington, D.C.–based firm David M. Schwarz Architects, distributed almost $180,000 among numerous recipients in the fiscal year that ended in September 2014, according to its federal tax documents. These included the American Academy in Rome, a local support organization for the terminally ill, the Corcoran Gallery of Art, and two smart-growth groups. The foundation took in an additional $100,000 in revenue, and its year-end fair market value of assets approached half a million dollars. Although a schedule of contributors was not linked to the foundation's latest IRS form, David M. Schwarz, firm president and CEO, explains, "While contributions from the firm go up and down, the giving of the foundation stays pretty constant. We did not want this charitable work to be measured by firm profitability."

The foundation also conducts a travel fellowship program. Through Yale and the universities of Notre Dame and Maryland, the foundation funds four $5,000 and $10,000 travel grants for undergraduate and graduate students nearing completion of their studies. It sends additional money to Yale for an annual commencement prize, also intended for travel and research.

The program resembles KPF's in its application procedures, award amounts, and ex-post-facto documentation requirements—with two key differences. Grantees of the David M. Schwarz Architects Internship & Traveling Fellowship perform two-month summer internships in Schwarz's design studio, in addition to



PHOTOGRAPHY: COURTESY JOHN MCASLAN + PARTNERS



OUTWARD BOUND Through his family trust, London-based architect John McAslan has initiated projects like the development of new schools and teacher-training centers in Malawi (above); the facilities were subsequently designed by John McAslan + Partners and Arup. Mikel Beaumont (right) studied in the Mekong Delta as part of NBBJ's 26-year-old traveling fellowship program.

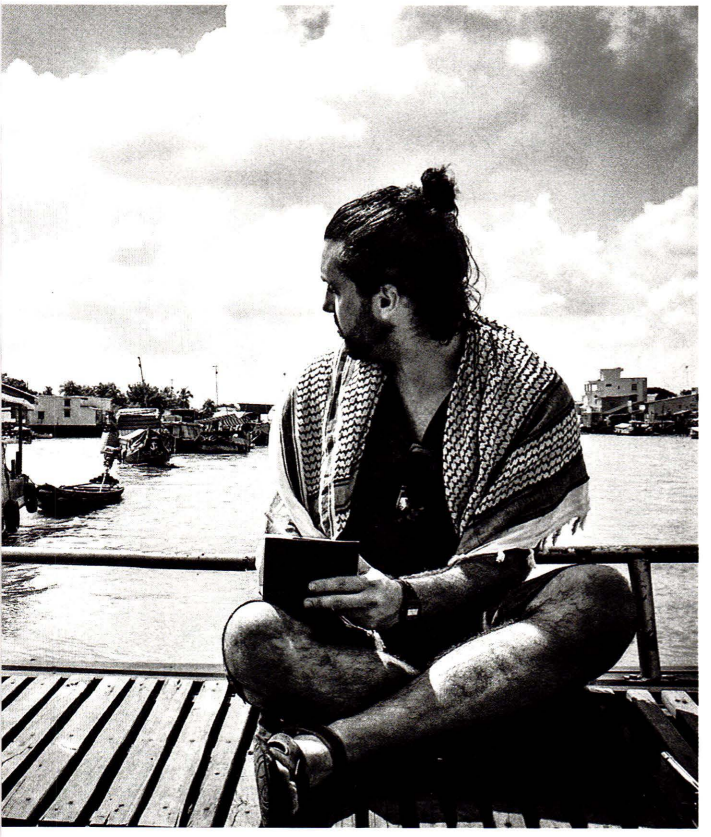
their travel. The fellowship also has a "polemical point" in promoting research into the traditional built environment, which, as Schwarz says, "is a nice way of saying you have to know your architectural history if you want to be an architect."

Legal and administrative duties associated with a foundation extend beyond financial disclosure. "There's a Chinese wall of sorts," Schwarz notes. "You can spend no money on the foundation that benefits the firm." To that end, interviewees all pointed out that their fellowship programs are not tools for recruiting permanent hires. "We have to make a very clear separation," SOM's Abadan explains. "There's an impartial jury, submissions are anonymous, and in no way can the firm solicit selectees for any favors. Now, after their research is over, people may approach SOM for a job, which is okay, because it's coming from them and not from us." Sources at SOM, KPF, and David M. Schwarz Architects say that only a handful of former fellows have become employees.

Some architecture firms decide to craft fellowship programs without creating foundations, which reduces some administrative burden. NBBJ has funded its traveling fellowship since 1989 from corporate overhead, reports the firm's director of communications Helen Dimoff, who cochairs the program with consulting principal Christian Carlson. Here recipients are firm employees, each of whom receives a two-week travel opportunity. Starting this year, a service component will be layered into the program, according to Dimoff.

$2M

The approximate total of travel-fellowship money that the SOM Foundation has dispensed to students since 1979



PHOTOGRAPHY: COURTESY EVAN CONROY/NBBJ

Meanwhile, funding for Robert A.M. Stern Architects' two-year-old RAMSA Travel Fellowship comes directly from the namesake firm's coffers. This $10,000 prize also has a polemical intent, as it goes to a master's student in his or her penultimate year at any one of 16 schools to research "the perpetuation of tradition through invention," as the fellowship's call for proposals states. In 2013, University of Pennsylvania student Jonathan Dessi-Olive demonstrated timbrel tile vaulting on Mfangano Island, Kenya, and last year McGill's Anna Anatropova catalogued Japanese wood joinery. While the firm is under no obligation to do so, RAMSA partner Melissa DelVecchio, who runs the fellowship program, says its operation is very similar to a foundation model. Talent acquisition is not its goal, and staffers do not reap any reward from the fellowships other than to have their curiosity stoked by new research.

In an alternative strategy, architects sometimes affiliate with family foundations, which allow the firm to expand its scope of activity even more. Since its founding in 1997, for example, the John McAslan Family Trust, based in the UK, has conducted more than a dozen projects: it has organized a design competition to expand London's New Horizon Youth Centre, funded young architects' fieldwork, and, on more than one occasion, spearheaded renovation projects that were then designed by London-based John McAslan + Partners. These include the Roundhouse, a performing-arts center in London, as well as the Iron Market, a historic Port-au-Prince landmark that reopened a year after the 2010 Haiti earthquake. Similarly, in recent years, Tsao & McKown cofounder Calvin Tsao has been channeling the Brooklyn firm's pro bono design services into projects supported by the Tsao Foundation, which his family founded in Singapore in 1993 to focus on human longevity and successful aging. So far, the effort has yielded the first phase of a retirement compound for Bhutanese monks.

Albeit burdened by the strict rules governing nonprofits, architects who set up their own foundations don't regret their decisions. The satisfaction they derive from the effort is as much charitable as creative. "Our buildings are all about making life better for people," Schwarz says of his firm, so its foundation's altruism simply underscores that philosophy. "But," he notes, "our good deeds also provide windows on the world. Through this work, we expose ourselves to fresh perspectives, and we learn more." ■

Continuing Education

To earn one AIA learning unit (LU) read: "How to Make Money" (page 170); "Is Bigger Better?" (page 173); and "Architects Give Back" (page 175), and complete the test at architecturalrecord.com. Upon passing the test, you will receive a certificate of completion, and your credit will be automatically reported to the AIA. Additional information regarding credit-reporting and continuing-education requirements can be found online at ce.construction.com.

Learning Objectives

1 Discuss some of the legal and technological developments of recent decades that have prompted a reexamination of how architects charge for their services and what kinds of services they provide.

2 Describe project-delivery methods that are alternatives to design-bid-build, and explain how they are helping some firms be more profitable.

3 Discuss the benefits and drawbacks that firms encounter when they merge with or acquire other firms.

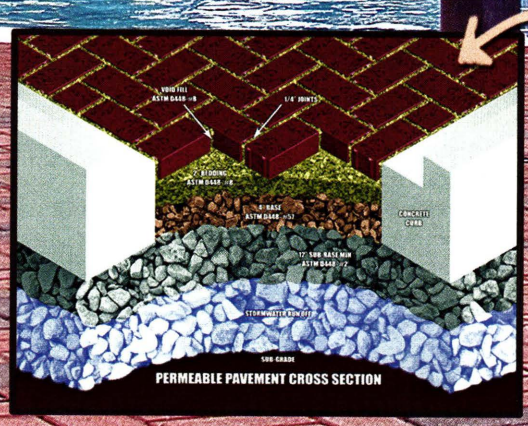
4 Discuss some of the administrative and legal requirements involved in setting up and running a corporate foundation.

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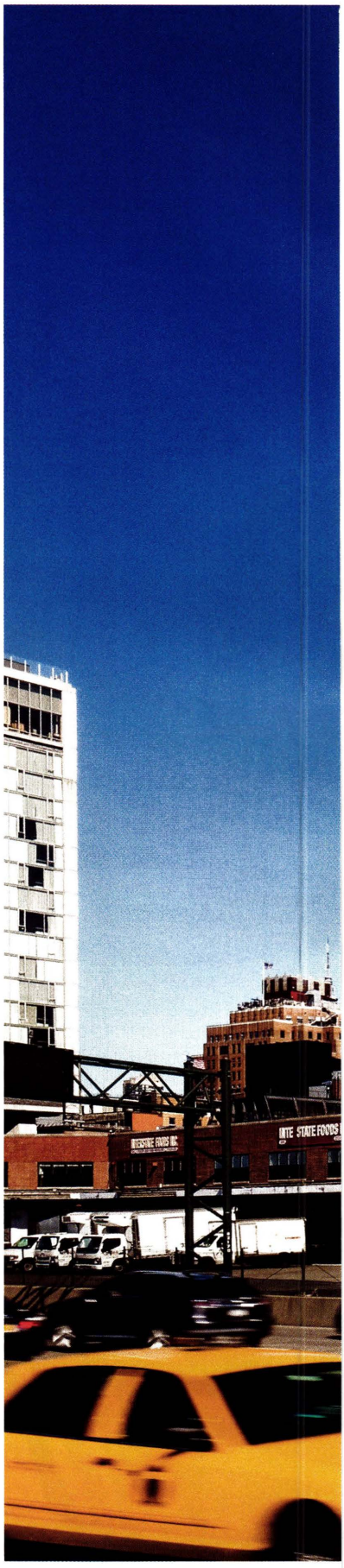
After failed attempts to add on to its iconic uptown venue, the Whitney builds a new home that reaches out to its neighbors.

BY CLIFFORD A. PEARSON

PHOTOGRAPHY BY JEFF GOLDBERG/ESTO

Some buildings look best from afar. Minoru Yamasaki's World Trade Center towers, for example, worked beautifully as supertall exclamation points on the Manhattan skyline, but never connected to the human spirit at ground level. Renzo Piano's new building for the Whitney Museum of American Art in New York does the opposite, failing to strike an inspiring pose for those at a distance but welcoming the public with a graceful entry plaza and transparent lobby. And like certain Hollywood stars, it has its good side and its less photogenic profile. Approach it from the east and you'll find a lively addition to the supercharged Meatpacking District, one that steps back from the nearby High Line while capturing the elevated park's energy with a series of terraces and outdoor stairs. Come from the north, though—either on the High Line or along Washington Street—and your first impression will be of a boxy composition that's vaguely industrial (smokestacks, exposed mechanicals, metal siding), if lacking the muscle or grit of a real factory.





LOOKING BOTH WAYS On the east, the building overlooks the High Line, while on the west (right) it offers views of busy West Street and the Hudson River (visible previous page).

For more photos and a video, go to architecturalrecord.com.


INTERSTATE

In its Marcel Breuer–designed Brutalist building on East 75th Street, the Whitney had struggled for 30 years to expand. Schemes to add to Breuer's notoriously idiosyncratic 1966 structure—first by Michael Graves, then Rem Koolhaas, and finally Piano—were all shot down by neighbors and preservationists. When New York City offered it a site at the south end of the High Line at a below-market price, the museum decided to move. The new location isn't far from where Gertrude Vanderbilt Whitney established the Whitney Studio in Greenwich Village in 1914 and offers the chance to become part of a neighborhood that has been radically transformed in recent years by the huge success of the High Line and an influx of art galleries just to the north in Chelsea. (The Whitney is leasing the Breuer building to the Metropolitan Museum of Art, which will install its 20th century and contemporary galleries there starting in March 2016. After eight years, the Whitney has the option of either extending the lease or taking back the property.)

When Breuer got the job to design the Whitney, he reportedly asked, "What should a museum look like, a museum in Manhattan? . . . What does it express, what is its architectural message?" In response to those questions, he created a fortified retreat for art, where visitors crossed a concrete bridge to get away from the cacophony of the city. Piano and his team at Renzo Piano Building Workshop (RPBW) took a different approach, connecting their building to the bustle of the Meatpacking District with outdoor spaces for art on the street level and on all of the gallery floors (5, 6, 7, and 8). Overlooking the High Line, the art terraces above the ground floor are linked by outdoor stairs, so visitors can circulate through the gallery floors while connecting on each level with the city. "In my first sketch of the project," says Piano, "I drew a building that flirts with the High Line and talks to the city."

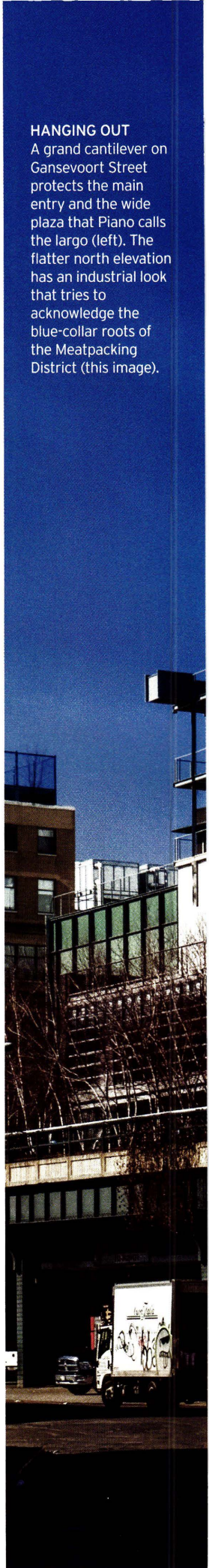
At 220,000 square feet, the new Whitney is significantly larger than the 85,000-square-foot Breuer building, but has just 17,000 square feet of additional indoor gallery space (now 50,000, versus 33,000, square feet). What it gains is the full set of educational, curatorial, and conservation facilities that museums expect today. It now has a multiuse black-box theater for film, video, and performance, a 170-seat theater, a works-on-paper study center, a library reading room, and 13,000 square feet of outdoor terraces for art, café tables, and seating. It also boasts the largest column-free museum gallery space in the city: 18,000 square feet for temporary exhibitions on the fifth floor. And, unlike its old location on the Upper East Side, this one offers the chance of future expansion. Directly to the north, the city owns a two-story wholesale meat center and has given the Whitney the right of first offer when that building's lease comes up in 15 years.

A strength of Piano's Whitney is its clear organization: galleries on the south side, curatorial and support spaces on the north, and an exposed precast-concrete core running through the middle that contains vertical circulation and mechanical ducts. Elevators face the main entrance on the ground floor and, as in the Breuer building, open directly onto the galleries upstairs. It will be hard for anyone—even the navigationally challenged—to get lost here.

Stabilized laterally by its concrete core, the building uses a steel frame for vertical loads and required cross bracing only at the southwest corner. RPBW wrapped most of the structure in vertical ribbons of 0.3-inch-thick 3.3-foot-wide steel, which curve subtly at the edges where the body of the building tucks in, such as along Gansevoort Street at the large cantilever that protects the main entrance to the museum. Resting on slender steel columns and enclosed on the ground floor by glass on three sides, the building seems to hover above Gansevoort. The lobby's ceiling angles up to greet the High Line next door, adding to the streamlining effect of the vertical ribbons and cantilevered torso above the entry. "I wanted the building to fly above the street," says Piano.

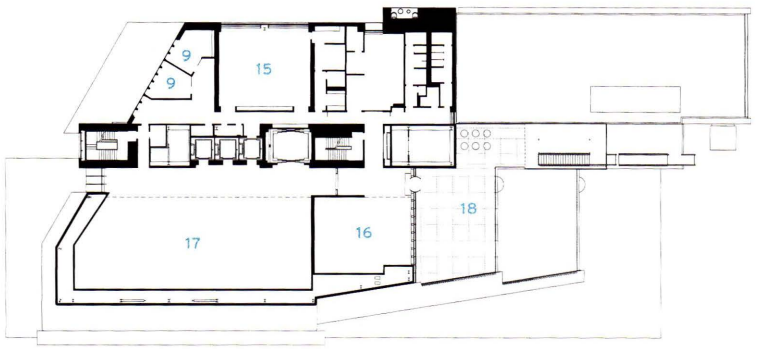
Running along Gansevoort from the High Line to the museum entrance, a wide plaza or largo provides a congenial outdoor space for visitors to wait in line, partially protected



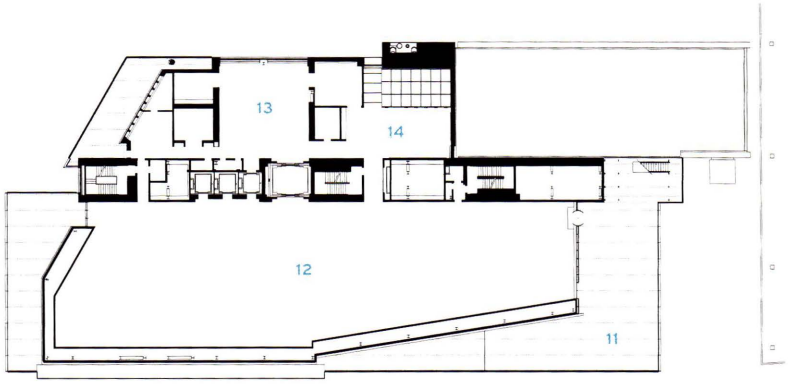


HANGING OUT
A grand cantilever on Gansevoort Street protects the main entry and the wide plaza that Piano calls the largo (left). The flatter north elevation has an industrial look that tries to acknowledge the blue-collar roots of the Meatpacking District (this image).

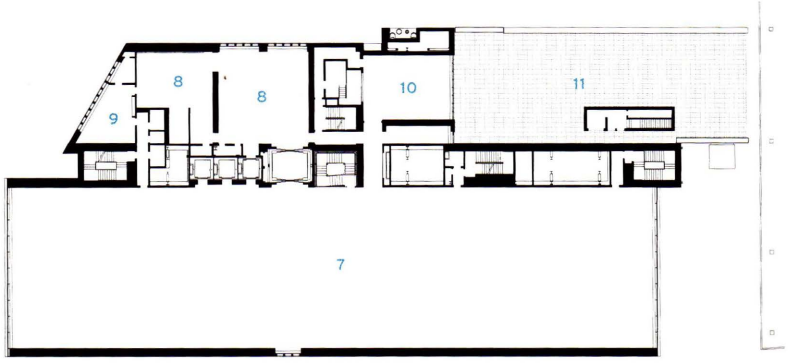

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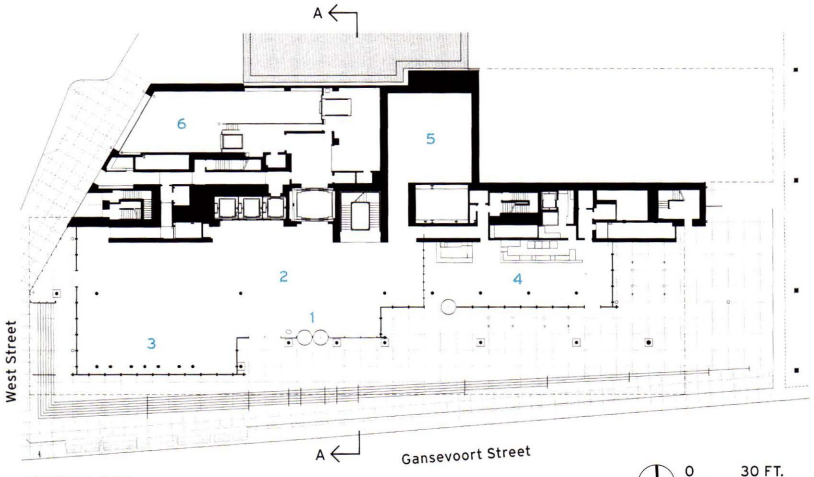
EIGHTH FLOOR



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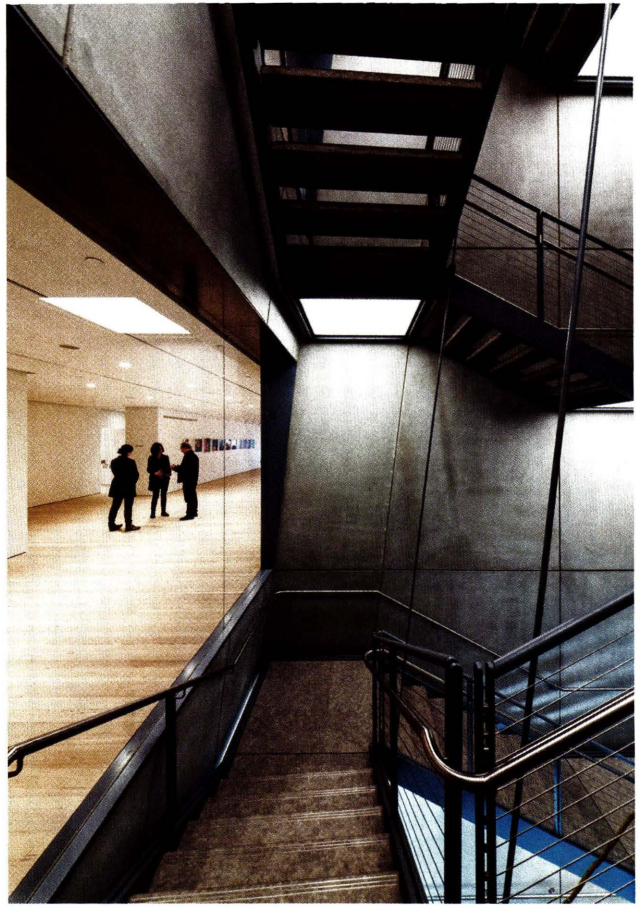


FIFTH FLOOR

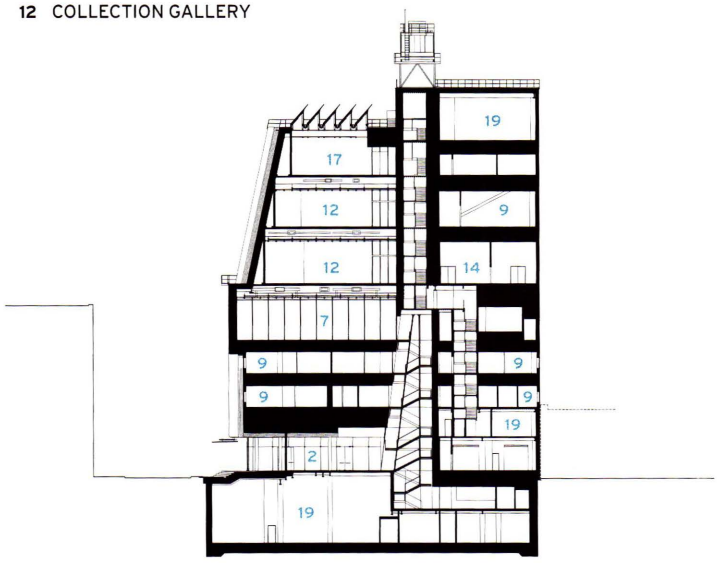


FIRST FLOOR

0 30 FT.
9 M

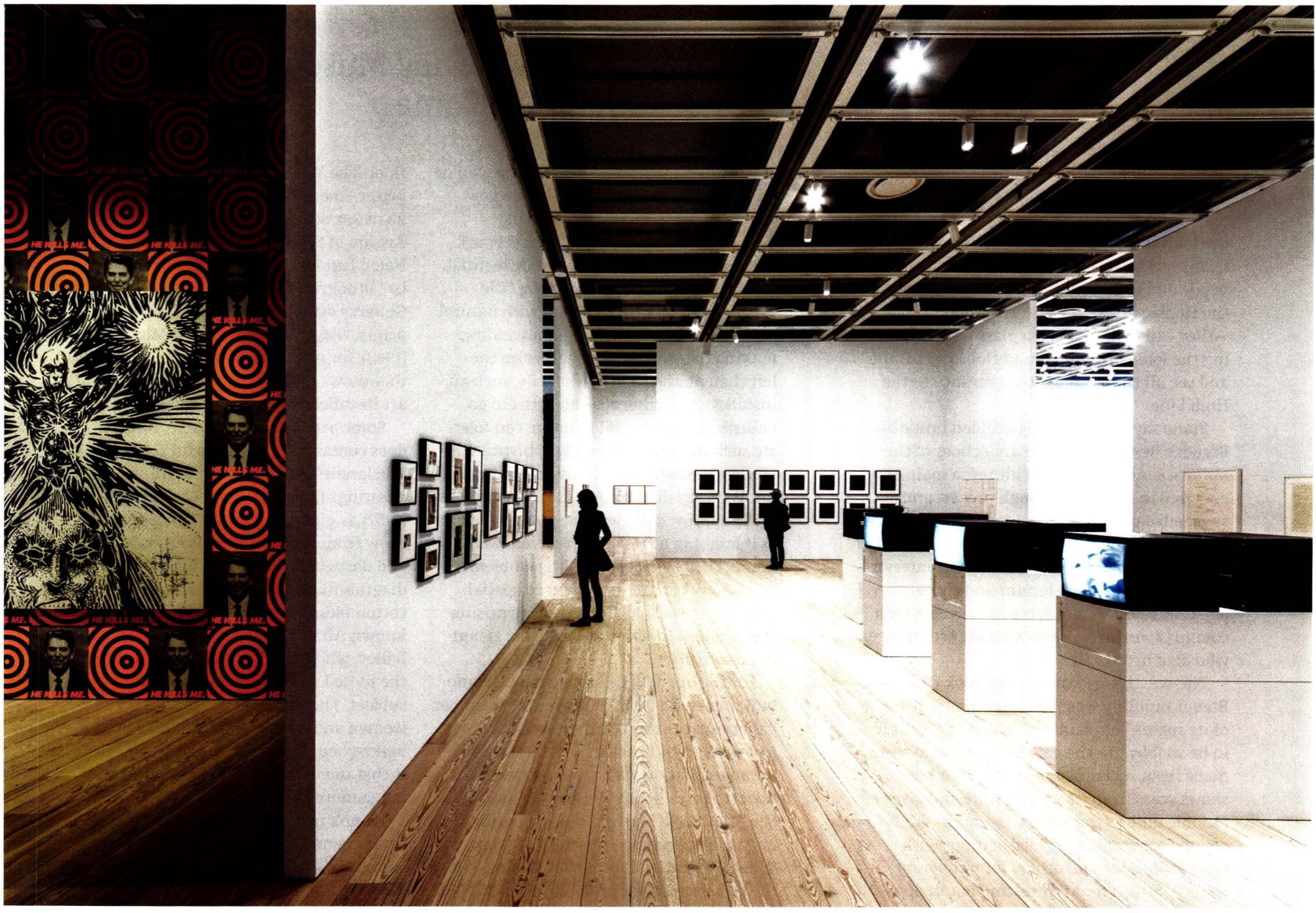


1 ENTRY
2 LOBBY
3 MUSEUM SHOP
4 RESTAURANT
5 LOBBY GALLERY
6 LOADING
7 TEMPORARY EXHIBITIONS
8 CRATE STORAGE
9 OFFICE
10 FILM AND VIDEO BLACK BOX
11 OUTDOOR GALLERY
12 COLLECTION GALLERY
13 CONSERVATION CENTER
14 WORKS ON PAPER CENTER
15 CONFERENCE
16 CAFÉ
17 SPECIAL PROJECTS GALLERY
18 TERRACE
19 MECHANICAL



SECTION A - A

0 30 FT.
9 M



UPWARD MOBILITY
Enclosed by precast-concrete panels and suspended from steel cables, the main stair (opposite) provides access to all floors. Steel stairs allow visitors to go from one outdoor art terrace (right) to another. Reclaimed-pine floors in the galleries (above) are sprung, so dance and other performances can take place throughout the museum.



credits

DESIGN ARCHITECT: Renzo Piano Building Workshop – R. Piano, M. Carroll, E. Trezzani, partners in charge; K. Schorn, T. Stewart, S. Ishida, A. Garritano, F. Giacobello, I. Guzman, G. Melinotov, L. Priano, L. Stuart, C. Chabaud, J. Jones, G. Fanara, M. Fleming, D. Piano, J. Pejkovic; M.Ottonello; F. Cappellini, F. Terranova, I. Corsaro, project team

EXECUTIVE ARCHITECT: Cooper, Robertson & Partners

ENGINEERS: Robert Silman Associates (structural); Arup (lighting/daylighting); Heintges & Associates (facade); Phillip Habib & Associates (civil)

CONSTRUCTION MANAGER: Turner Construction

CLIENT: Whitney Museum of American Art

SIZE: 220,000 square feet

COST: $422 million

COMPLETION DATE: May 2015

SOURCES

CURTAIN WALL AND METAL PANELS: Joseph Gartner

GLASS: Bischoff Glastechnik

ENTRANCES: Oldcastle BuildingEnvelope; C.R. Laurence; PRL Glass Systems

SLIDING AND FOLDING DOORS: Nana Wall Systems

RECLAIMED-PINE FLOORING: The Hudson Company

by the building's cantilever. Uptown, the Whitney drew fewer than 400,000 visitors a year. The High Line attracts 5.5 million people a year, and many of them will want to check out the museum. The Whitney, which declines to forecast how many visitors will show up, may find itself packed even in its larger facility.

With glass on three sides and an open plan that incorporates a freestanding shop, the lobby emphasizes transparency. So, pedestrians on the street can see what's happening inside and museumgoers can enjoy views of the Hudson River, and—in the other direction—they can look through a glass wall separating the lobby from a ground-floor restaurant and see all the action at the entrance to the High Line.

Piano says he purposely avoided imitating Breuer's design, but there are echoes of the uptown building in his Whitney: a main stair enclosed in concrete (though precast and suspended on steel cables here), stone flooring in the lobby, and an extra-wide elevator that can handle either people or art. (The interior surfaces of the large elevator and three adjacent smaller ones serve as canvases for a commissioned artwork by Richard Artschwager, who died in 2013.)

The one thing Piano says he took from the Breuer building was "the unpretentious spirit of its spaces," explaining, "We didn't want it to be snobby." In the galleries, wood flooring made from reclaimed heart pine timbers shows scars from its previous life and gives a humble note to the spaces. Overhead, RPBW created a system of gridded ceilings with tracks for lights and others for temporary walls to attach to. After testing out various ceiling heights, the museum ended up asking for basically the same ones they had uptown—17½ feet for galleries on the fifth and sixth floors and 15 feet on the seventh floor.

While curators' offices and conservation labs enjoy plenty of daylight and views through generous north glazing, the galleries on floors 5 through 7 have glass on just the narrow east and west sides, so light at eye level doesn't interfere with viewing the art. Only the top-floor special-projects gallery, which is just 4,500 square feet, gets bathed in natural illumination, thanks to sawtooth skylights equipped with mechanized shades. So the magic Piano has worked at places like the Menil Collection in Houston and the Beyeler Foundation in Basel, which have mostly top-lit galleries, is missing from most of the indoor art spaces at the Whitney. In the east and west galleries that do get daylight and big views of the river and the city, the spaces and the art look fantastic. *(continued on page 191)*

CLOSE-UP

BY PETER PLAGENS

The Art in the Whitney Museum Shines in its New Home

On the far west end of a wall on the sixth floor of the new Whitney Museum of American Art hangs Frank Stella's great and influential, black proto-Minimalist painting "Die Fahne hoch!" (1959). It's raked with natural light streaming in from a giant window, making the work appear lighter on the left than on the right. Ordinarily, such an installation might cause an artist to go ballistic (though an oil painting can tolerate such indirect light) and sophisticated viewers to shake their heads in disapproval. But Whitney director Adam Weinberg says Stella approved the way the picture looks: as it might in a real person's windowed home. The placement is subtly emblematic of the new Whitney's enhanced spatial, visual, and social openness—a surprising humaneness, if you will, in such a gleaming new edifice.

For the opening of its new Renzo Piano building—with 50,000 square feet of indoor gallery space—the Whitney is trotting out 650 works by 400 artists in its holdings for an exhibition with a telling title from Robert Frost's poem "America Is Hard to See." In the old Marcel Breuer building on Madison Avenue—the third of four Whitney locations since its founding—what the public could see of the 22,000 works in the permanent collection was mostly confined to a measly 7,725 square feet on the fifth floor of what seems, in retrospect, a mausoleum-like edifice. So this show is less an exhibition than a reunion, in tuxes and ball gowns, where old Whitney favorites show up along with such pleasantly odd guests as a suite of gently satirical 1921 watercolors by Guy Pène du Bois, present only because the researching curators were serendipitously reminded of their existence.

The new Whitney has done a remarkable job of bringing coherence and experiential flow to its evolving definition of American art. (State-of-the-art LED lighting and some astutely chosen grays for some walls—off-the-shelf from Benjamin Moore!—help.) The exhibition is offered up in 23 "chapters," each title deriving from a specific work within. The chapters run roughly chronologically upward from the ground floor. The Whitney's earlier art looks better—more concentrated, richer—than its newer acquisitions. Ben Shahn's "The Passion of Sacco and Vanzetti" (1931–32), Helen Lundeberg's delicate "post-Surrealist" lithograph, "Planets" (1938), and Hugo Gellert's astonishingly fresh propaganda prints, "Fighting with All Our Might" (1943), for instance, are free of the bombast that shows up in much of the more recent art installed on the floors above them.

Some art closer to our time, however, does contain a few wonderful revelations. The largest and one of the best Lee Krasner paintings I've ever seen, "The Seasons" (1957), is given its own wall and steals the show from such big boys as Franz Kline and Barnett Newman. An untitled diagrammatic painting of a slave ship and cotton blossom, from 1969, by the unknown African-American artist Malcolm Bailey, who died in 2011, is powerful in the muted way it depicts its searing subject. The Whitney has included more women and minority artists not as a make-good, but simply because America is that much harder to see without their being more fully represented.

Piano's new Whitney has an architectural openness that matches, if not surpasses, the museum's curatorial stance. The 17½-foot ceilings, the same as in the old Whitney, feel more lofty; some are left "open" so works of art can be hung from the beams. Daylight floods into the building from east, west, and overhead on the top floor (from a refreshingly old-fashioned skylight system, with no tricky louvers or moving tilted panels). The art looks surprisingly de-institutionalized and fresh, as it might on a studio visit if the artist had swept the floors and repainted the walls. Yes, there are darker galleries in the new Whitney, but even those have a brightness and clarity. On the first floor, a dark-blue room contains work originally collected by the museum's founder, Gertrude Vanderbilt Whitney (including some fine figure drawings by Edward Hopper done at the Studio Club, the precursor to the Whitney). The Whitney is leaving that gallery open to the public without an admission charge; visitors can



SHOW STEALER
Lee Krasner's "The Seasons" (1957) gets its own wall and star treatment in its new home. On the east side of the building, each gallery floor has access to a terrace where art can also be displayed.

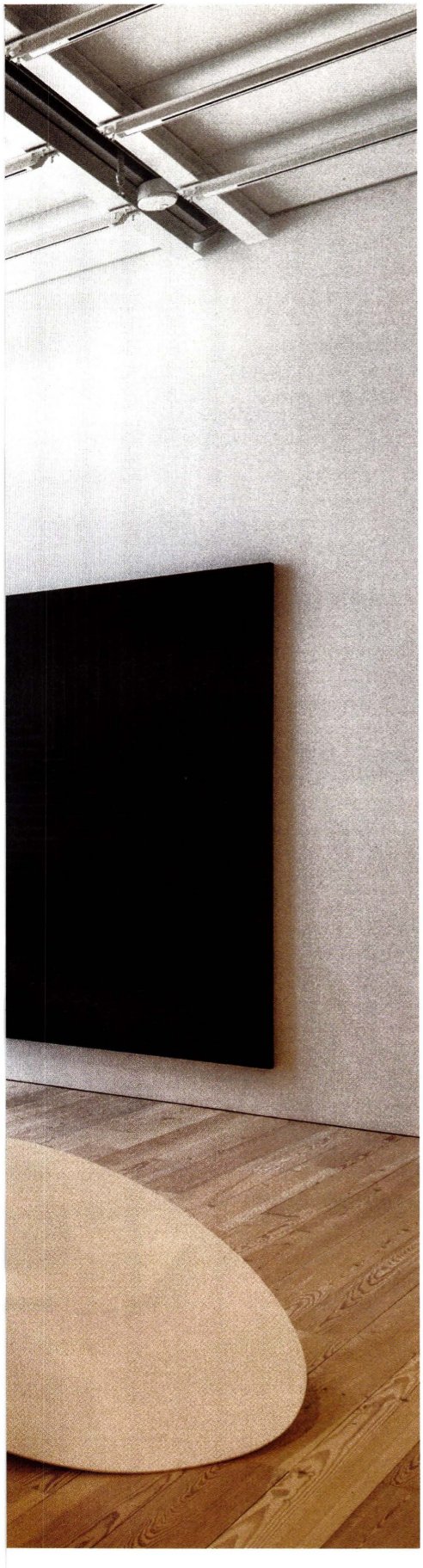
descend from the High Line, walk in from the plaza, and go right to the art. Paying customers who get out on the Whitney's expansive upstairs terraces will see the greatest 270-degree "waist-level views" (as Weinberg calls them) of Manhattan.

Those gritty city views could be a metaphor for the exhibition. "Hard to see" really means "hard to define," or, as chief curator Donna De Salvo has described the task of mounting the exhibition, "the impossibility of offering a tidy picture of this country." Many artists collected early on were immigrants; in recent years, the Whitney has struggled with a definition of what constitutes an "American" artist (its infamous Biennials include those who produce freshly baked art all over the world). One of the more startling works in the exhibition, for example, is a 6-foot-square collage, "Air Mail Stickers" (1962), by the Japanese artist Yayoi Kusama, who created it while living in New York but then returned to Japan and voluntarily committed herself to a mental hospital where she's lived—and made art—ever since.

What "American" means for the Whitney is still a bit of a problem: is it a straitjacket or a key distinction in the increasingly global art world? The success of the new Whitney, beyond the box office, will depend on how well it navigates this tricky path. Placing a black Frank Stella in refreshing natural light is, one hopes, a small indication of the Museum's adroitness. ■

Critic Peter Plagens is the author of Bruce Nauman: The True Artist.







ILLUMINATED ART
The only top-lit gallery is on the eighth floor (above) where sawtooth skylights provide the kind of diffuse glow for which Piano is known. On the other gallery floors, daylight comes in only at the narrow east and west ends. One of Frank Stella's black paintings and a sculpture and painting by Ellsworth Kelly (left) benefit from their placement in one of these spaces.

The huge temporary-exhibitions gallery on the fifth floor, which was so impressive on a walk-through during construction, is less so now that it is carved up by partitions for the current show, *America Is Hard to See*, an expansive presentation of nearly 650 works from the museum's permanent collection. In the future, though, the Whitney may use the gallery as one big space for special exhibitions or installations, and the public will get to experience what an 18,000-square-foot, column-free room is like. (For more on the museum's art, see sidebar, page 188.)

What defines the new Whitney are the remarkable outdoor spaces for enjoying art. The museum plans not just to place sculpture on the terraces and on the largo, but to invite artists to project video works on its facades and mount performances on its steel stairs. "We want to use the building as the material for art, not just a site for art," says Adam Weinberg, the museum's director. "We see the building as an instrument to be played."

With its exterior stairs animating its city side, the Whitney nods to Piano's first big commission—the Pompidou Center, which whisks visitors up one facade on clear-tube-enclosed escalators. The Whitney doesn't shock the way the Pompidou did when it opened in Paris in 1977 and doesn't represent a bold new direction in architecture. But it combines the maturity of an architect who has been honing his craft for five decades with a jolt of big-city energy. ■

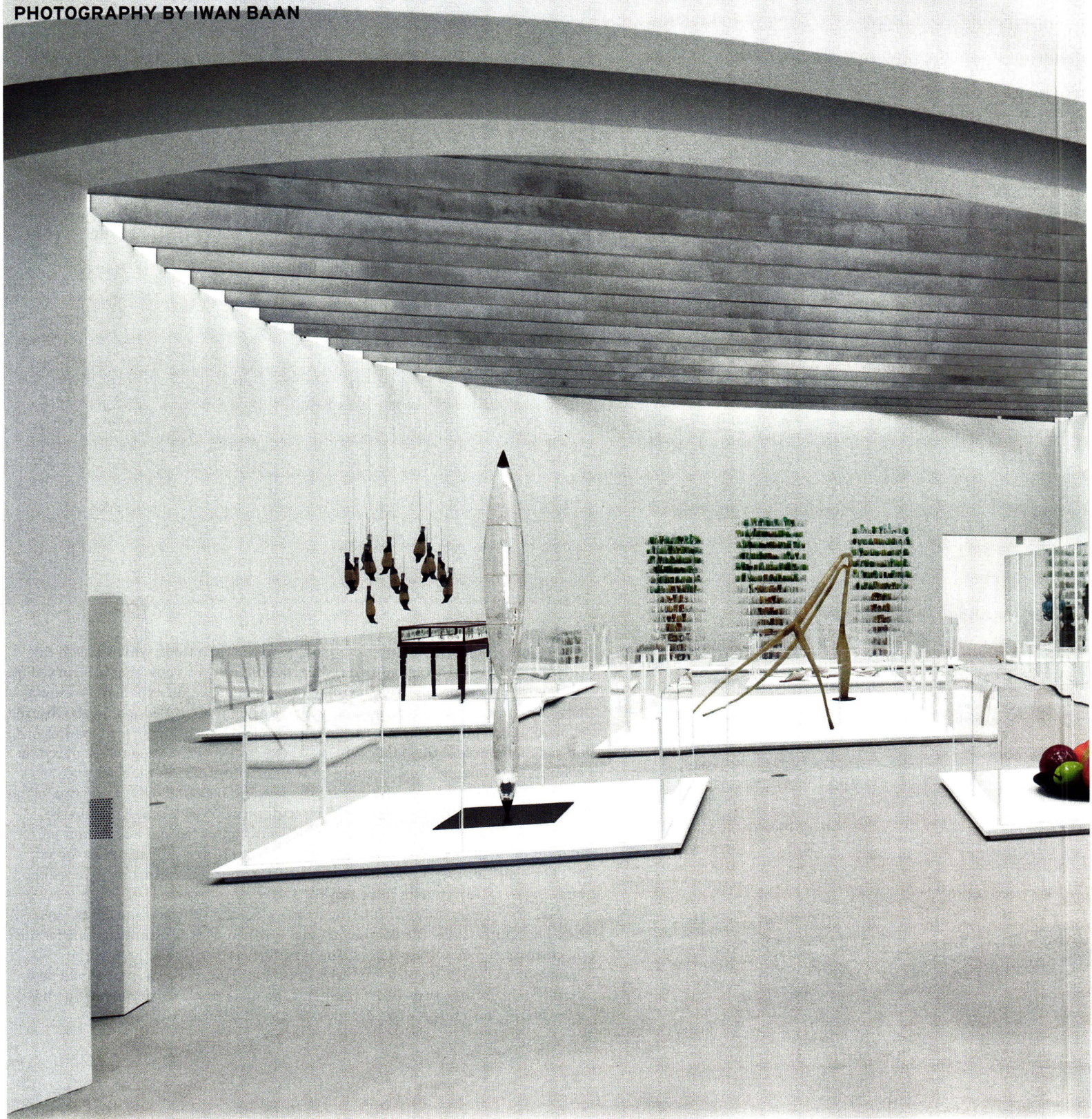
Corning Museum of Glass Contemporary Art + Design Wing | Corning, New York | Thomas Phifer and Partners

IN THE CLOUD

Thomas Phifer and Partners takes advantage of glass's unique qualities with free-flowing galleries inside a light-filled museum.

BY JOSEPHINE MINUTILLO

PHOTOGRAPHY BY IWAN BAAN





OFF THE WALL Large-scale glass works by artists including Tony Cragg and Kiki Smith, which sit on the floor, allowed architect Tom Phifer to design galleries with 20-foot-tall curving concrete walls that support the slender roof joists above and conceal mechanical equipment.

Ever since Corning Glass Works, now Corning Incorporated, established itself in its namesake town in upstate New York 164 years ago, glass has been the economic, cultural, and artistic lifeblood of the rural hamlet. When the Corning Museum of Glass opened in 1951, the mystique of glass extended well beyond residents of the picturesque region. Last year, annual attendance at the continually expanding museum (the original Wallace Harrison building was added onto by Gunnar Birkerts in 1980 and Smith-Miller + Hawkinson in 2001) rose to 440,000—almost comparable to the annual number of visitors at the St. Louis Art Museum, for instance, in a city whose population is 30 times that of Corning's.

Glass is both soft (in its raw state) and hard. It is incredibly strong, yet extremely fragile. It can soak up light or shimmer in its presence. It has practical, decorative, and architectural applications. Thomas Phifer recognizes all that. As architect of the new Contemporary Art + Design Wing, which opened in March, he, more than any previous designer of the museum's sprawling complex, fully exploited glass's unique properties.

The new wing's one-story, 26,000-square-foot gallery space—the largest in the world devoted to the exhibition of contemporary glass art—features softly curving concrete walls encased within a crisp, seamless glazed vitrine. Its innovative design, where glass panels transition from rain-screen to window, maximizes glass size to create a skin with very few joints. (For details on the facade, see RECORD, March 2015, page 122.) Overhead, impossibly thin concrete joists look delicate but support the vast steel and glass roof (see sidebar). While mimicking the qualities of glass, these strategic building elements also cater to its display.

Although horizontal light hitting a glass plane makes it appear dark, according to Phifer, daylight pouring in from between those slender roof joists "brings it to life." Recalls the architect, "We learned fairly quickly that glass art is not harmed by daylight. We were doing a very different museum here." Phifer's office worked with Arup to modulate daylight within the space, which, on average features 200 to 300 footcandles when combined with fixed electric illumination, and on a particularly sunny summer day can reach as high as 500 footcandles. (By comparison, galleries that exhibit paintings are usually kept at around 30 footcandles.)

And, unlike paintings that hang on a wall, the large, contemporary glass artworks on display, 117 in all, mostly sit on the floor or are suspended from the rafters above. This gave Phifer the freedom to design those sinuous concrete walls, 20 feet high and cast in place. The overall effect is that of a cloud, where the colorful glass objects stand out against the muted background—surfaces blur into each other, and specks of sunlight passing through an occasional transparent skylight panel travel across them.

Financed entirely by Corning Incorporated, the new wing features the company's famous Gorilla Glass, which composes the ultrathin barriers surrounding all of the large-scale sculptures and installations. The damage-resistant and optically pure glass—found in 2.7 billion cellphones, tablets, notebooks, and other devices—is being used for the first time in this capacity. "It's the kind of material that just vanishes because it's so clear and thin," says Phifer.

The experience of the new wing is vastly different from the rest of the galleries, where glass objects from earlier eras are exhibited in dimly lit rooms, and exterior glass walls are covered by curtains. "It was the ethos of the time to keep galleries darker," says Tina Oldknow, senior curator of modern and contemporary glass. The new wing is located on the north end of the completely connected complex and immediately adjacent to the main admissions lobby, where guests arriving by car enter. (Bus groups enter on the opposite end of the lower level.) Visitors—who, museum research has found, are overwhelmingly drawn to contemporary works—are encouraged to start in the new structure and then finish the loop through the other buildings. "Reading the end of the book first works for us here," explains Oldknow.



Along the way, visitors will also pass through the ventilator building of the former Steuben Glass factory, designed by Harrison in the 1950s and renovated by Phifer to accommodate retractable seating for 500 for glassblowing demonstrations and glass-design sessions. The rest of Phifer's 100,000-square-foot project—which at $64 million is fairly economical for a museum building despite its groundbreaking envelope and structure—includes office space below the gallery and a boardroom overlooking it.

The Contemporary Art + Design Wing may be the most recent among Corning's collection of modern glass buildings—and Tom Phifer the latest in its roster of high-profile architects—but it is not destined to be the last. Just as a spirit of invention drives the Fortune 500 company, Corning's enlightened patronage of both art and architecture will surely continue to shape the small town it calls home. ■

View additional images at architecturalrecord.com.





BLACK-AND-WHITE
A long, narrow interior space, called the porch, has a 144-foot-long window overlooking a new Reed Hilderbrand-designed campus green, which replaces a parking lot but is a year away from completion (opposite). The serrated skylighted roof features a mix of opaque metal panels and translucent and transparent glass panels to modulate daylight entering the gallery (above). The black metal facade and horned roof of the renovated ventilator building sit in sharp contrast to Phifer's frosty white box (right).

credits

ARCHITECT: Thomas Phifer and Partners

ENGINEERS: Guy Nordenson and Associates (structural); Altieri Sebor Wieber (m/e/p); O'Brien & Gere (civil)

CONSULTANTS: Arup (daylighting and lighting); Heintges (facade); Reed Hilderbrand (landscape)

GENERAL CONTRACTOR: Gilbane + Welliver

OWNER: Corning Incorporated

CLIENT: Corning Museum of Glass

SIZE: 100,000 square feet

PROJECT COST: $64 million

COMPLETION DATE: March 2015

SOURCES

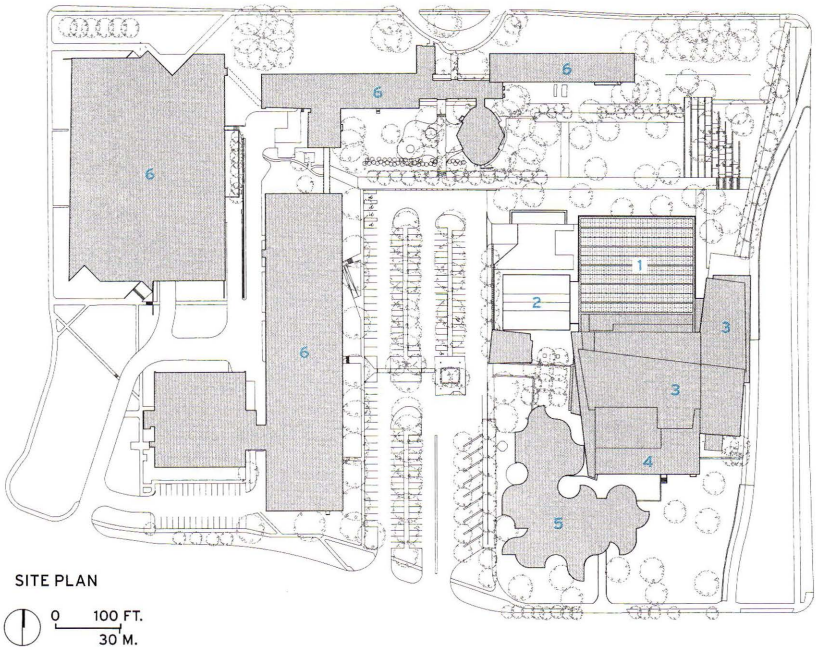
EXTERIOR GLASS: Thiele Glas

SKYLIGHTS: Viracon

SOLID SURFACING: Corian

DOWNLIGHTS: LSI

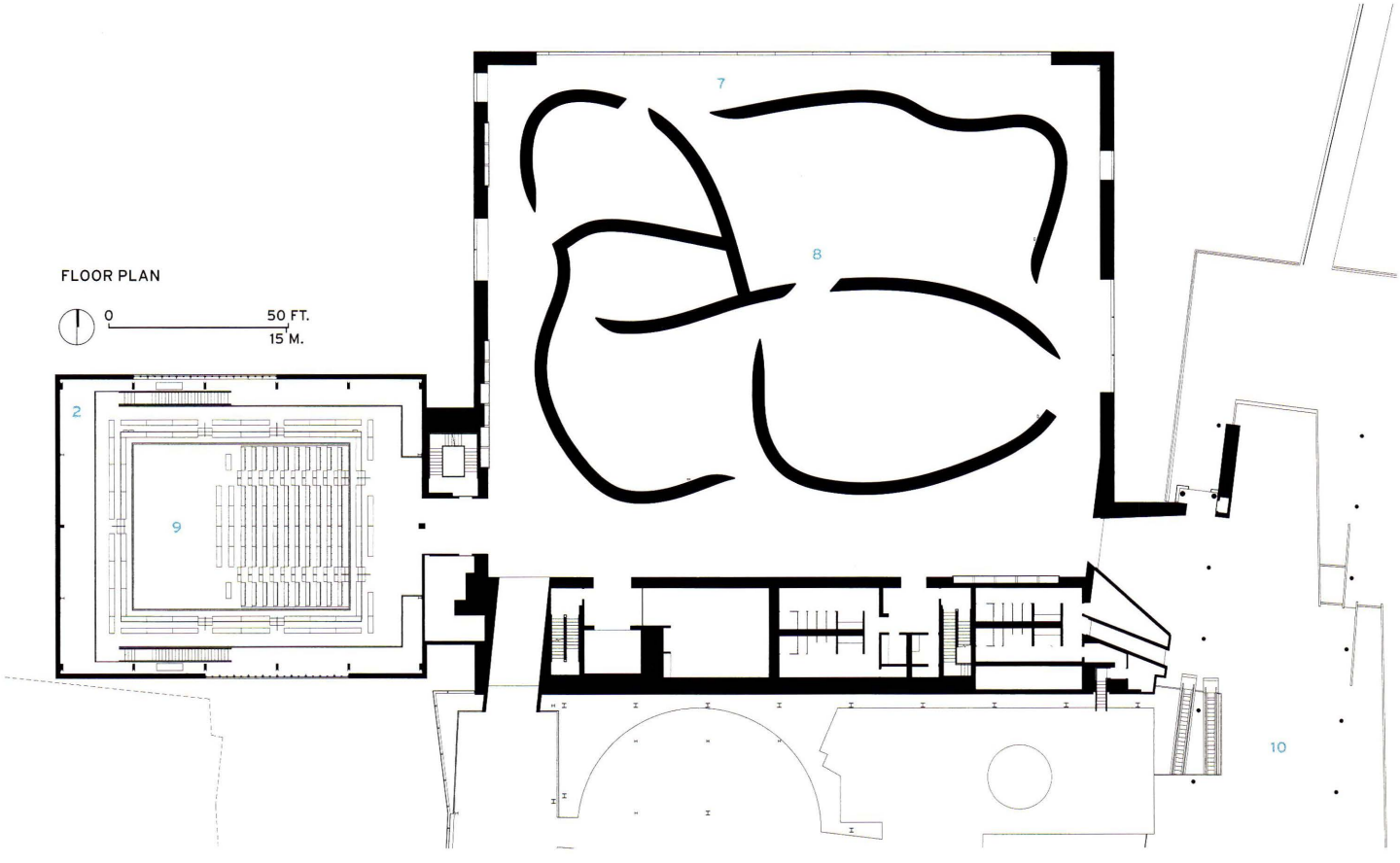
ELEVATORS: Schindler



SITE PLAN

0 100 FT. 30 M.

1 CONTEMPORARY ART & DESIGN WING
2 VENTILATOR BUILDING
3 SMITH-MILLER HAWKINSON ADDITIONS
4 ORIGINAL HARRISON & ABRAMOWITZ MUSEUM BUILDING
5 GUNNAR BIRKERTS ADDITION
6 OFFICE BUILDINGS
7 THE PORCH
8 CONTEMPORARY ART & DESIGN WING GALLERIES
9 AMPHITHEATER HOT SHOP
10 ADMISSIONS LOBBY



FLOOR PLAN

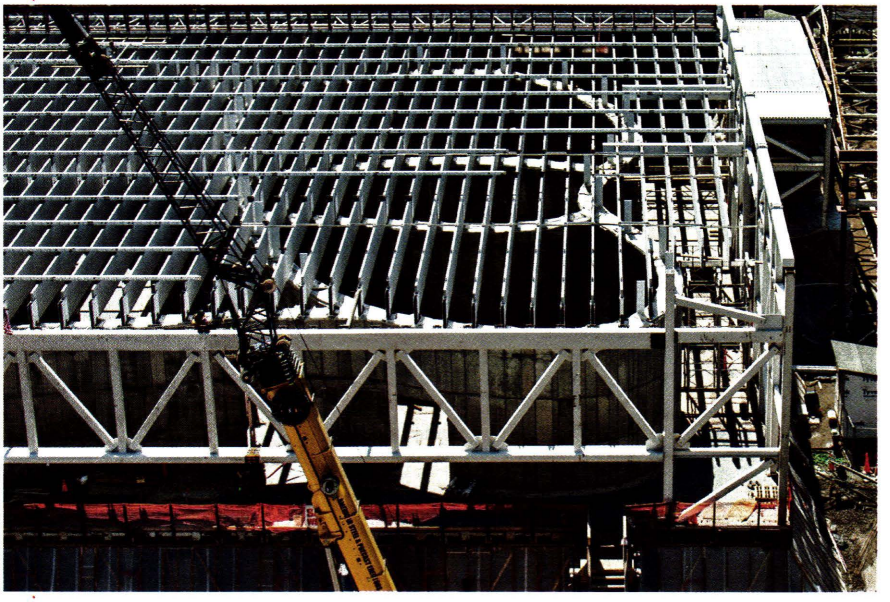
0 50 FT. 15 M.

CLOSE-UP
STRUCTURE AND SUBSTANCE

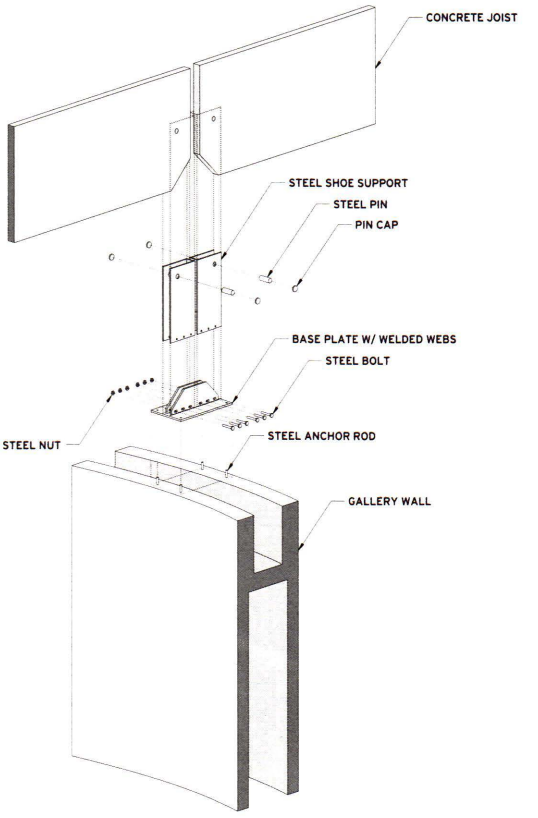
Set in Concrete

ENCASED IN glass, the gallery space of the new Contemporary Art + Design Wing at the Corning Museum of Glass is defined by its stunning structural elements. Liberated from the requisite straight walls for displaying paintings and works on paper, architect Thomas Phifer introduced curving concrete interior walls early in the design process. Within them would sit the large sculptural glass art from the museum's permanent collection, top-lit by daylight streaming in from the mostly glass roof.

Structural engineer Guy Nordenson, who had also worked with Smith-Miller + Hawkinson on the previous museum renovation and addition, suggested a series of deep beams that would both filter daylight in and hold



PHOTOGRAPHY: © RICHARD BARNES



JOIST SUPPORT CONNECTION EXPLODED AXON

up the roof. Inspired by Sverre Fehn's Nordic Pavilion at the Venice Biennale (1962), where transparent roof elements are suspended between similarly slender rafters, Nordenson's solution features 3½-inch-wide and 4-foot-deep precast concrete joists positioned 3 feet, 2½ inches apart. The spacing was calibrated based on input from daylighting consultant Arup. "We had to strike a balance so that enough light came through to illuminate the works, while managing glare and overall brightness," says Arup associate Matt Franks.

Almost all of the 200-plus high-strength beams, composed of 10,000 psi concrete, have a unique geometry, given their varying spans (between 6 and 55 feet) and connections to the irregular serpentine walls. Fabricating those elements was a challenge. Quebec-based Béton Préfabriqué du Lac (BPDL), whose product can be seen in projects as diverse as the new Yankee Stadium and the new Whitney Museum of Art, was the only precaster willing to take it on. "Typically, just one face of a precast element needs to look good," says Guy Bouchard, BPDL project manager. "Here, three sides are visible," not to mention prominently featured in the pristine gallery space. BPDL used a single mold for the different shapes, pouring the concrete vertically over 1½-inch-thick steel rebar for a smooth finish all around.

The challenge for Nordenson's office was predicting the behavior of those beams, since the standard methods for determining the resistance of steel, aluminum, and timber structural elements do not extend to reinforced-concrete beams. "Calculating how well these beams would support the loads without buckling was made much more complicated, because concrete will crack," explains Nordenson. A system of thin steel purlins runs perpendicularly over the top of the precast roof joists to provide lateral bracing.

While glass lies at the heart of all things at the Corning Museum, in this case, the concrete skeleton plays an equally important, and highly visible, role. *JM*

SHOW OF SUPPORT The building during construction, prior to the installation of the skylight (above, left). The slender precast beams span north-south between perimeter steel and the interior cast-in-place concrete walls. A truss was needed along the north elevation, where there is a 144-foot-long window.

Poly Grand Theater | Shanghai | Tadao Ando Architect & Associates

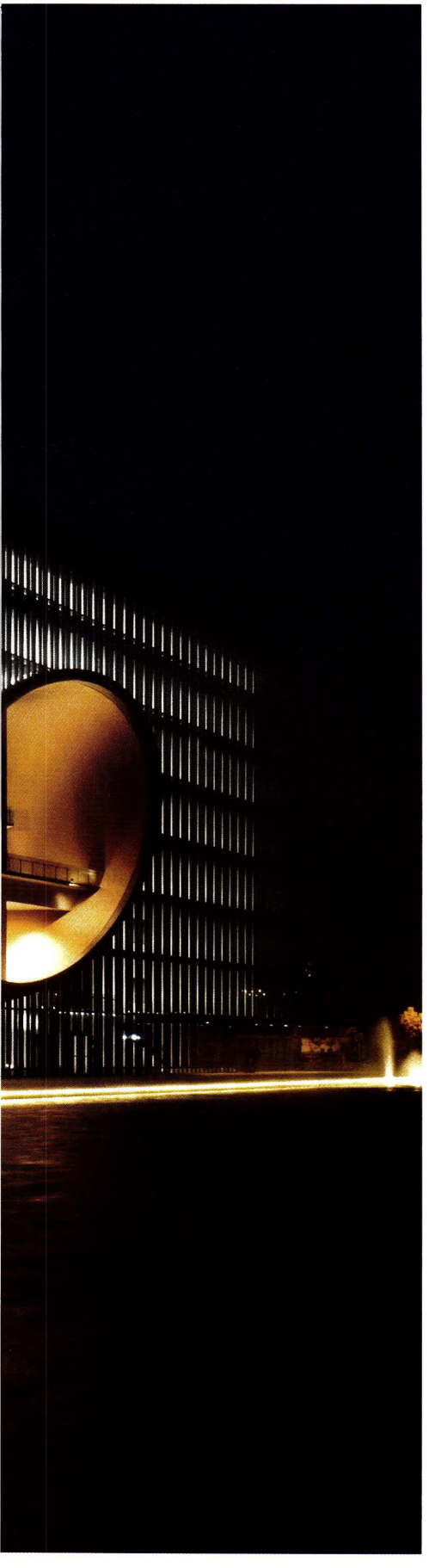
ANY WAY YOU CUT IT



A Pritzker Prize–winning architect carves tunnels through a concrete-and-glass box to create a bold theater complex for a burgeoning district in Shanghai.

BY CLARE JACOBSON

PHOTOGRAPHY BY SHIGEO OGAWA



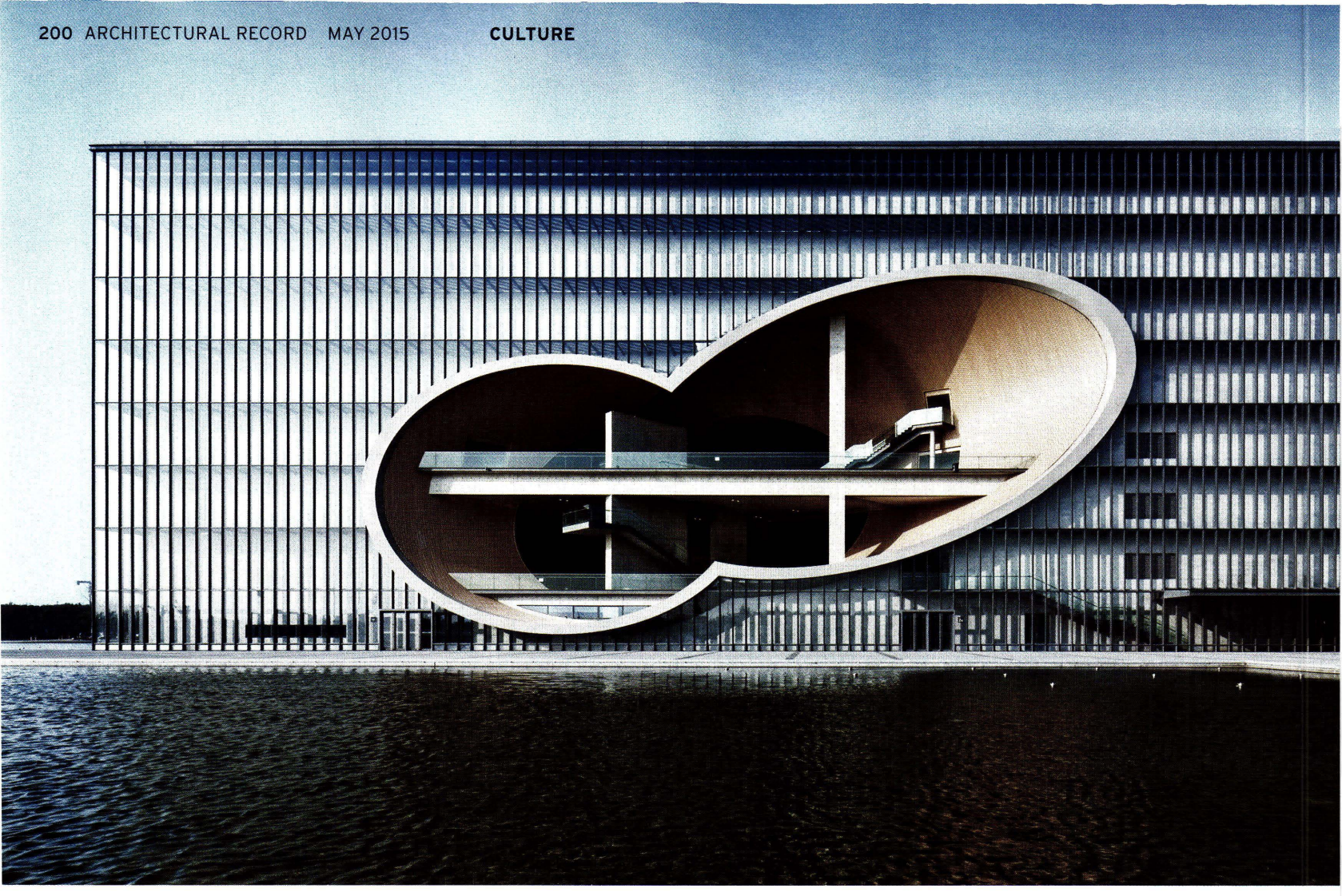


At the Poly Grand Theater in Shanghai, Tadao Ando puts his flair for drama to good use. Starting with his usual Platonic geometry—here a 330-by-330-by-113-foot box—Ando bores large tunnels vertically, horizontally, and diagonally into the form. The move seems aggressive, more like coring an apple than forming holes in Swiss cheese. The cylindrical tunnels meet the concrete structure's aluminum-and-glass curtain walls at various angles to create elliptical shapes on all four facades. On the inside, the tunnels produce a similarly theatrical experience for visitors coming for operas, concerts, plays, and other events.

The Poly Theater's look-at-me gestures are intentionally bold. Ando's office says the design "was expected to provide a certain landmark quality." The project is located in Shanghai's Jiading district, a newly developing area about 12 miles northwest of the city's center. It serves as part of the cultural heart of a new town; a library has also been completed nearby. An artificial lake on two sides and construction on the two others mark the theater building as an icon-to-be. Like many

SOLIDS AND VOIDS
Five steel-framed "tubes" push through the concrete structure, creating covered, but not enclosed, spaces that can be used for performances (at left in photo opposite) or for circulation (above).

View additional images at architecturalrecord.com.

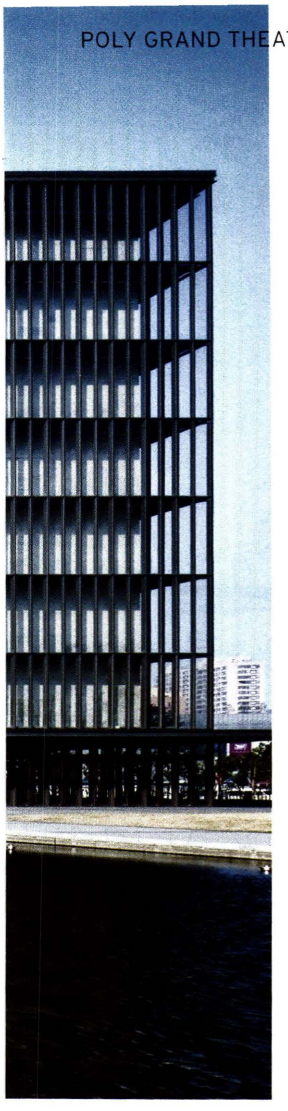


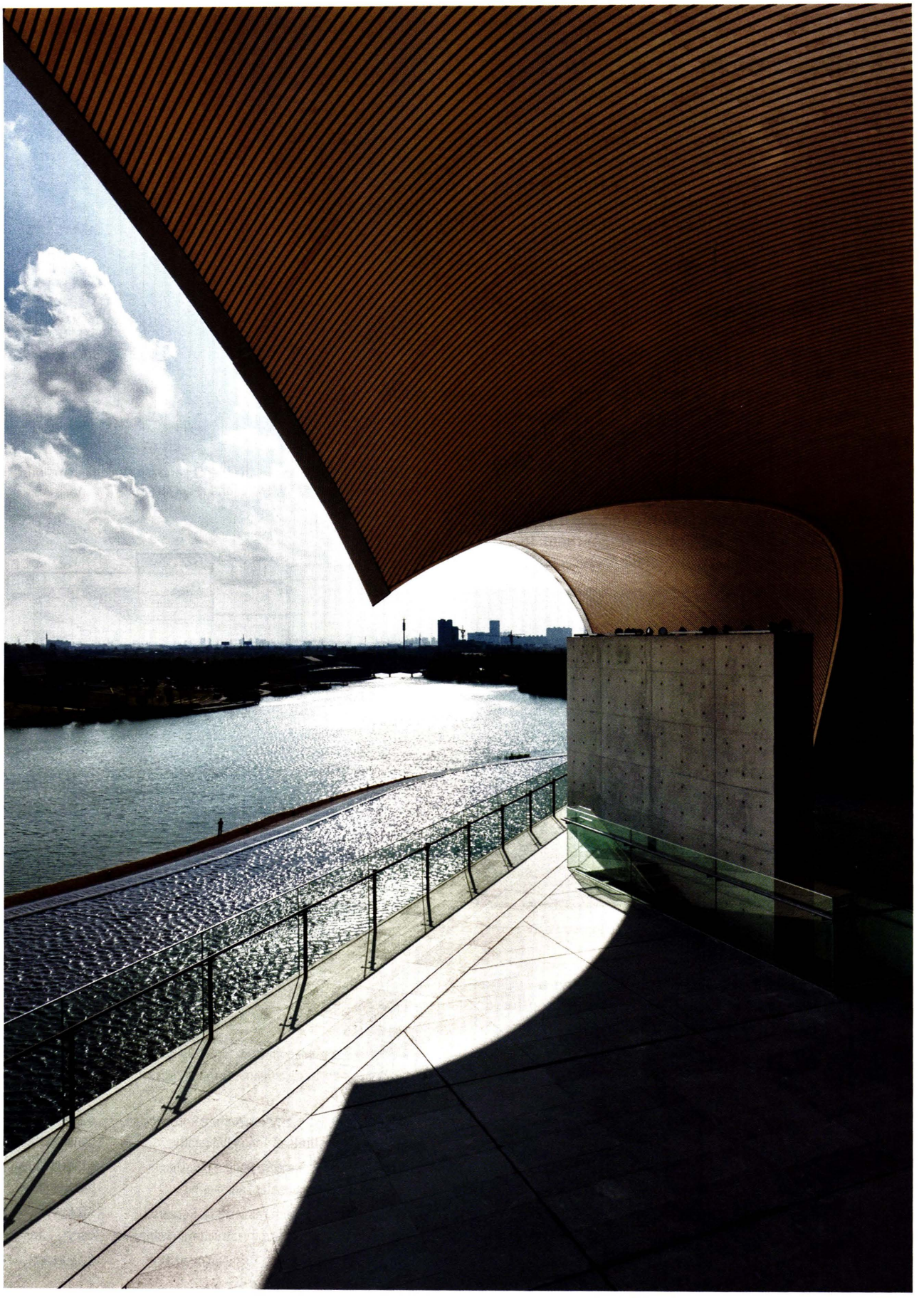


new cultural centers across China, this one aims to change the area where it's located from a backwater to a destination.

Ando's design features five "tubes," each pushing through the 602,000-square-foot building and serving a specific function. Most visitors will encounter two of these elements—a six-story vertical lobby tube and a two-story horizontal foyer tube—on their way from the entrance to the main theater. The lobby is accentuated by two eye-catching stairways that curve left and right like showpieces out of a 1920s Broadway musical. A bridge on the fourth level and windows on the fifth overlook the grand space. The lobby's square ceiling somewhat diminishes the bold impact of the cylinder, but its intersection with a circular skylight creates the kind of dramatic daylighting for which Ando is known. From the lobby, the foyer tube skillfully compresses the visitor's experience, allowing for an explosion of space when entering the theater proper.

Three additional tubes—one leading to a covered, but not enclosed, amphitheater on the ground level; one for an amphitheater on the roof; and one connecting the south side of the site to the main foyer—are active mostly for specific occasions. The connecting tube will link to a forthcoming commercial complex to the south where Ando's design for a multiuse tower with hotel, office, and retail space is currently under construction. All of the tubes are steel-frame elements independent of the building's main concrete structure and have interior surfaces finished in aluminum





CULTURAL ANCHOR
The theater complex was designed as a new landmark (above) for Jiading, a fast-developing district about 12 miles from downtown Shanghai. From its covered terrace, the building offers views of an artificial lake and the surrounding area (right). The main lobby (opposite, bottom) is a six-story-high space topped with a circular skylight.

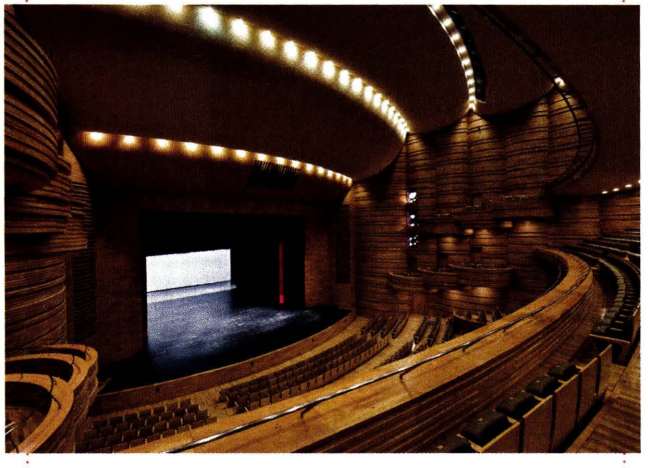
CLOSE-UP
PATRON OF THE ARTS

Design Boom

CHINA POLY GROUP, the client for the Shanghai theater, is probably best known for its auction house. Poly Auction is one of the largest houses in China and an integral force in the recent expansion of the Chinese art market. Yet the parent corporation is a wide-ranging enterprise servicing sectors as diverse as real estate, minerals, chemicals, and explosives. Poly was founded in 1992 as a state-owned enterprise (SOE), and its special relationship with the Chinese government no doubt has spurred its success. In 2012, the company's assets from all of its subsidiaries reached $62 billion.

Poly's headquarters in Beijing, designed by SOM, shows the prominence of its culture and arts division. The skyscraper features a ground-floor showroom for the auction house and a lantern-like museum projecting from the building's glass curtain wall. The museum houses an impressive collection of bronzes and Buddhist stone sculpture.

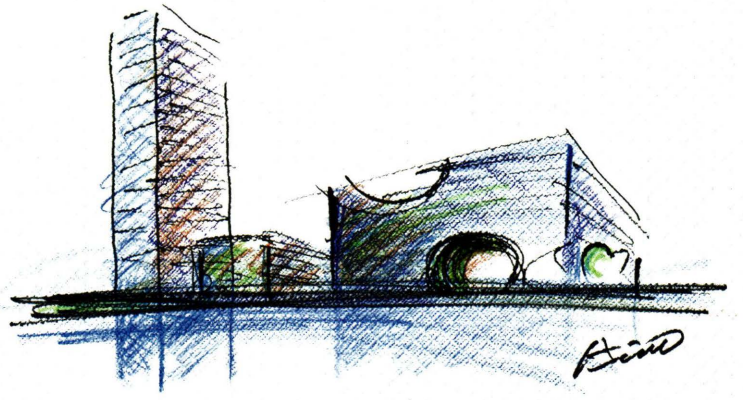
Poly collects architecture as well as art. It manages 39 theaters throughout China and has hired both foreign and Chinese firms to design them. In eastern China, the Finnish firm PES-Architects



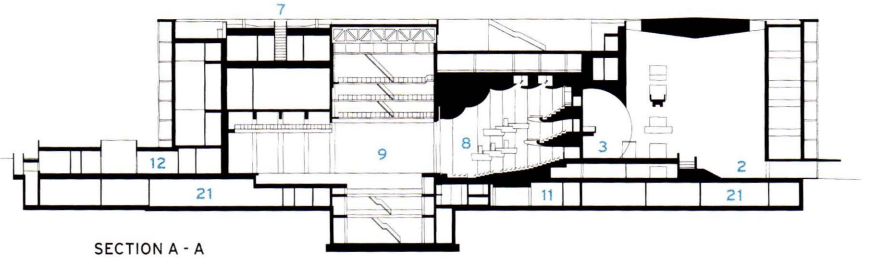
SOUND WAVES The main theater is wrapped in wood and seats 1,600 people.

roofed the villagelike Wuxi Grand Theater with eight wavy forms. The French firm Arte Charpentier Architectes designed the Shanxi Grand Theater in the northern city of Taiyuan. Shanghai's Dushe Architectural Design wrapped the Yingkou Bayuquan Poly Grand Theater in Liaoning with a facade seemingly made of layered puzzle pieces.

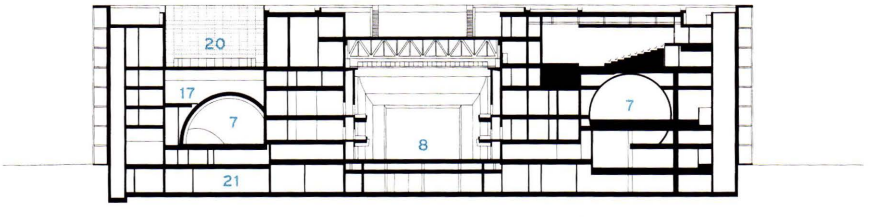
Each of these theaters brings a concentration of architecture and culture to a newly developed site. It remains to be seen how well these venues will be used. Regardless, the designs of the theaters are attracting attention and helping to market Poly to millions of people in China. ■



HANDMADE A sketch shows the theater and a forthcoming multiuse tower, also designed by Ando, that will have hotel, office, and retail spaces.



SECTION A - A



SECTION B - B

0 100 FT.
30 M.

credits

ARCHITECT: Tadao Ando Architect & Associates – Tadao Ando, Kazuya Okano, Yoshinori Hayashi, design team

ASSOCIATE ARCHITECT: Architectural Design & Research Institute of Tongji University

INTERIOR ARCHITECT: Beijing Qingshang Architectural Ornamental Engineering

ENGINEER: Architectural Design & Research Institute of Tongji University (structural/civil/m/e/p)

CONSULTANTS: Zhang Kuisheng Acoustical Design and Research Studio (acoustics); Architectural Design & Research Institute of Tongji University (landscape)

GENERAL CONTRACTOR: China State Construction Engineering

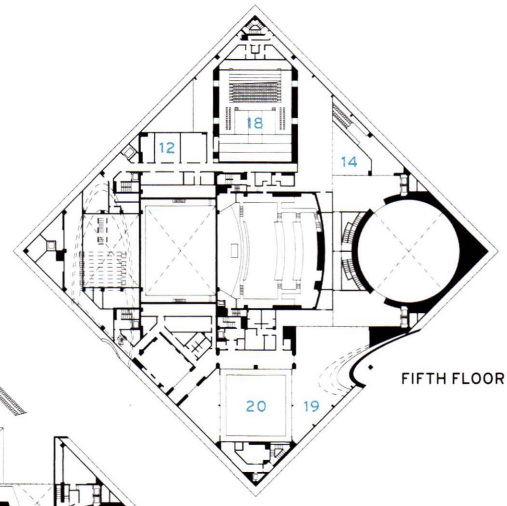
CLIENT: Shanghai Poly Jia Real Estate Development

SIZE: 602,000 square feet

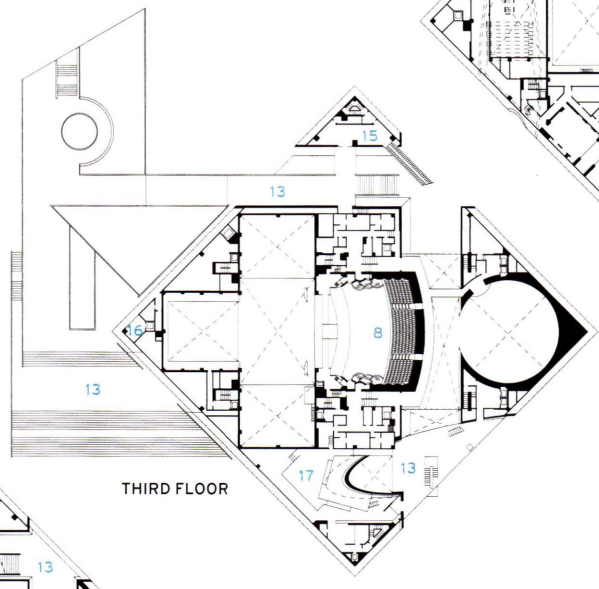
COST: withheld

COMPLETION DATE: August 2014

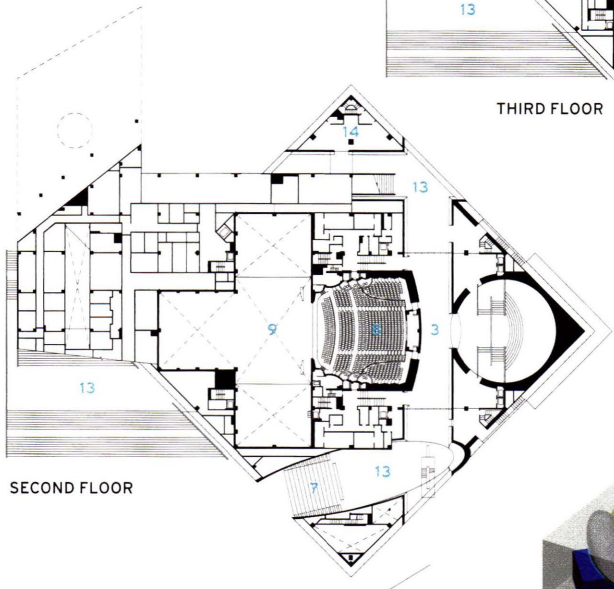
1 MAIN ENTRANCE
2 LOBBY
3 FOYER
4 TICKETS
5 CLOAK
6 SHOP
7 AMPHITHEATER
8 MAIN HALL
9 STAGE
10 LOADING
11 OFFICE
12 DRESSING
13 TERRACE
14 CAFÉ
15 ENTRY TO MULTIPURPOSE HALL
16 ENTRY TO AMPHITHEATER
17 RESTAURANT
18 MULTIPURPOSE HALL
19 GALLERY
20 WATER COURT
21 PARKING



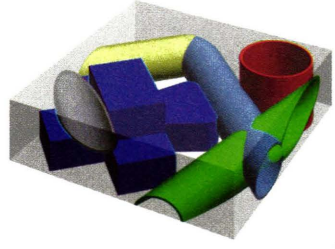
FIFTH FLOOR

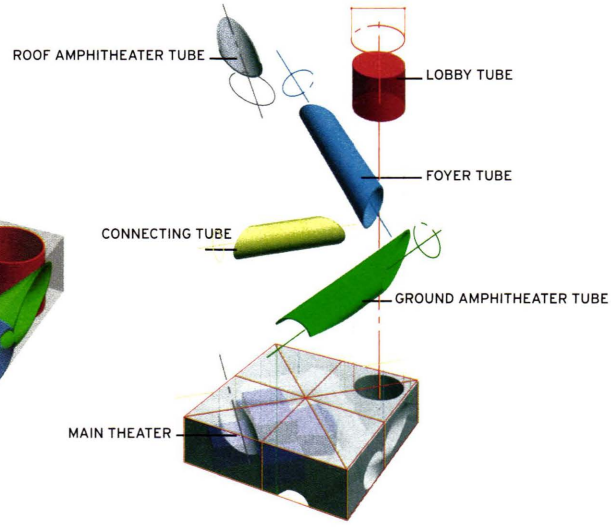


THIRD FLOOR

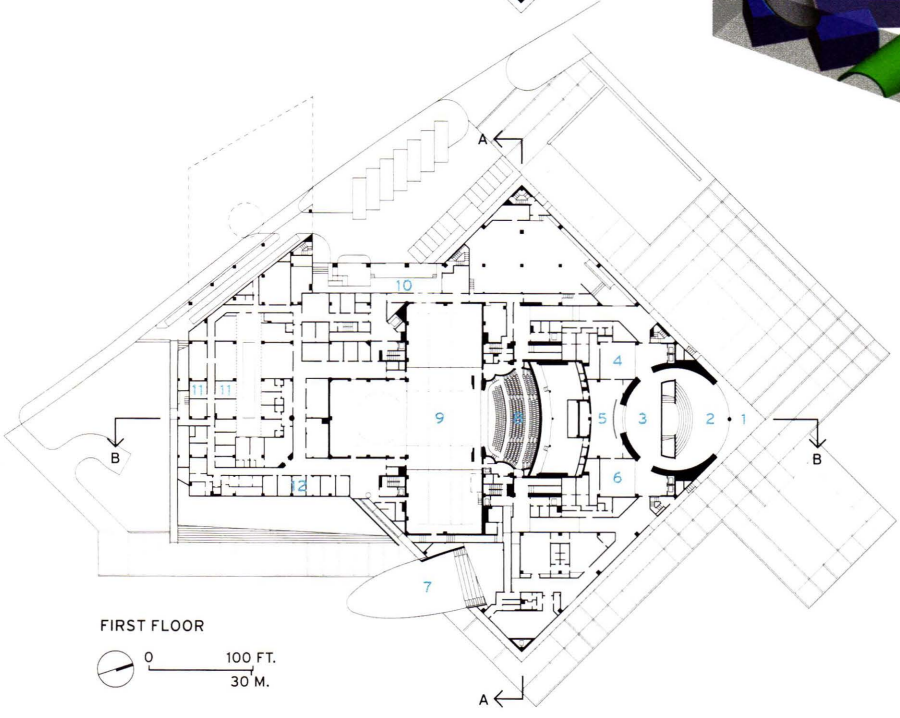


SECOND FLOOR

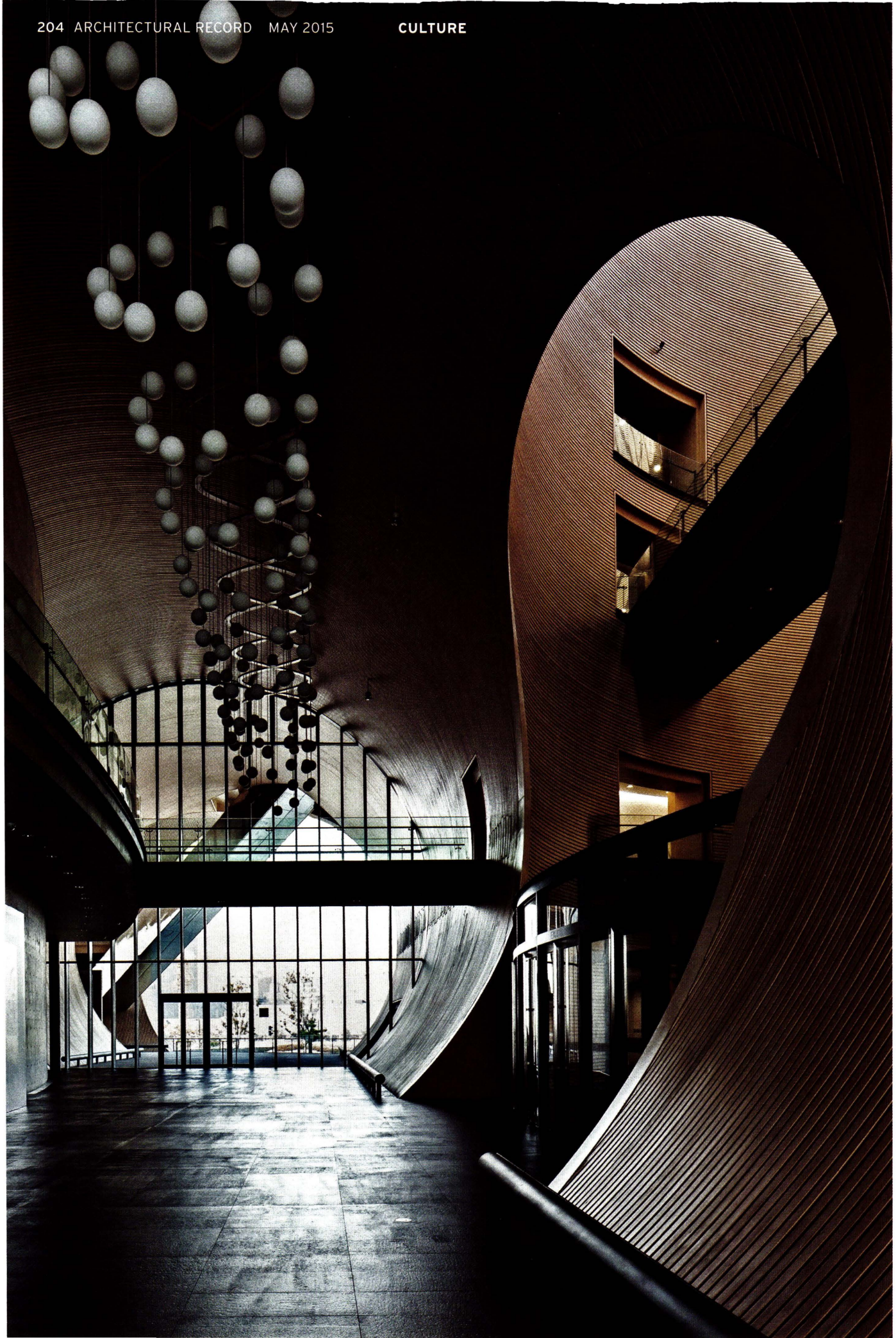




TUNNEL VISION Vertical, horizontal, and diagonal tubes run through the square building, creating eliptical openings on the aluminum-and-glass curtain wall.

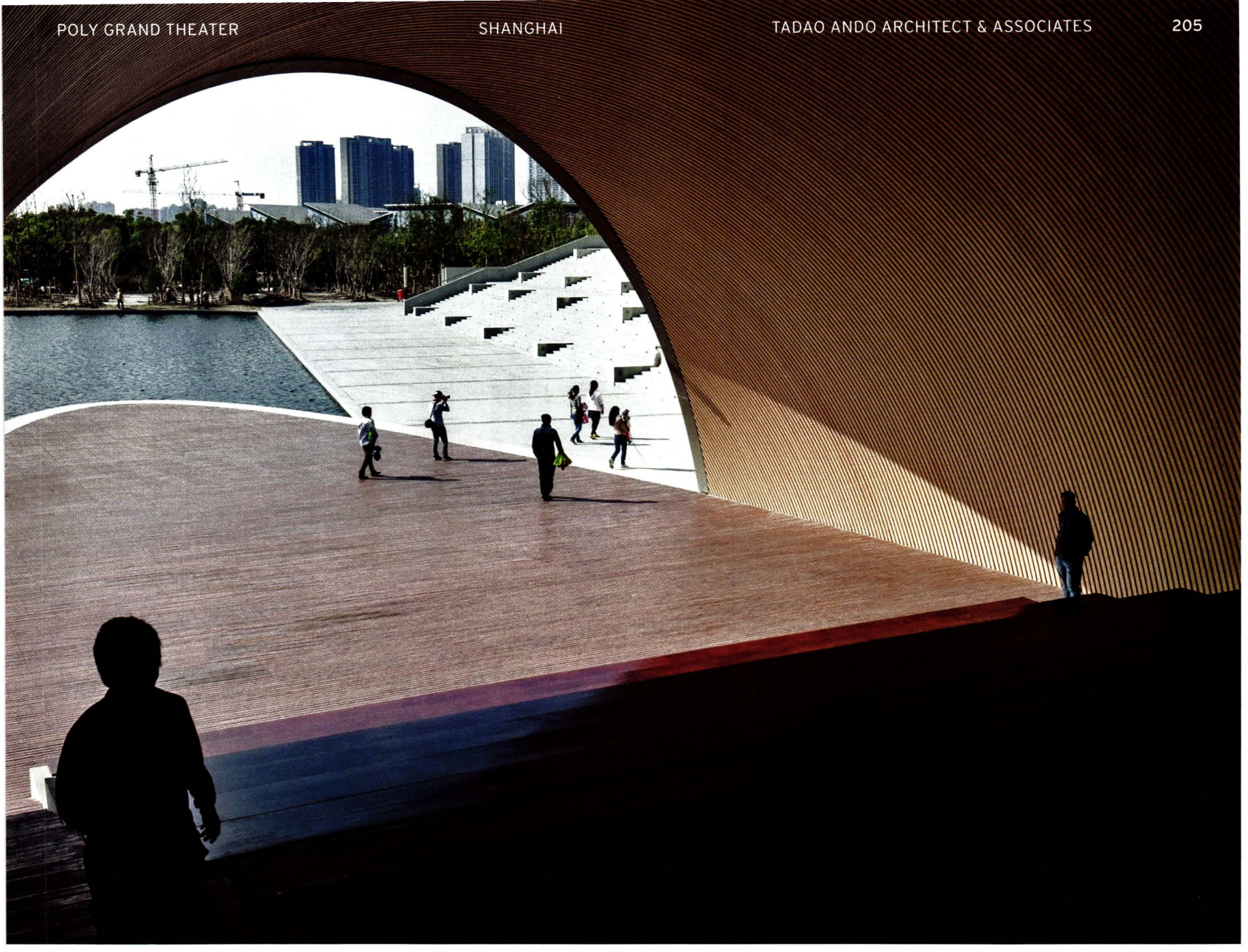


FIRST FLOOR





INTERLOCKING FORMS
The main foyer (left) connects with the lobby (beyond curved glass on right) as well as the covered terrace. One of the tubes covers an amphitheater that steps down to the water (above).



rib-wall painted to look like wood.

Inside the 1,600-seat main theater, the cylindrical theme continues. Bands of laminated wood rib-wall at the orchestra level and up through two balcony levels provide a warm, textured contrast to the more subdued aluminum and exposed-concrete finishes in the bulk of the interiors. The theater's 12 box seats particularly revel in unabashed curviness. Sun Jian of China Poly Group, the state-owned conglomerate that commissioned the project, says he believes that the architectural acoustics of this project are the best of the many theaters his company has built around the country (see sidebar). Ando credits his acoustical engineer, Shanghai-based Zhang Kuisheng Acoustical Design and Research Studio, for collaborating in making sure the sound quality in the theater is excellent.

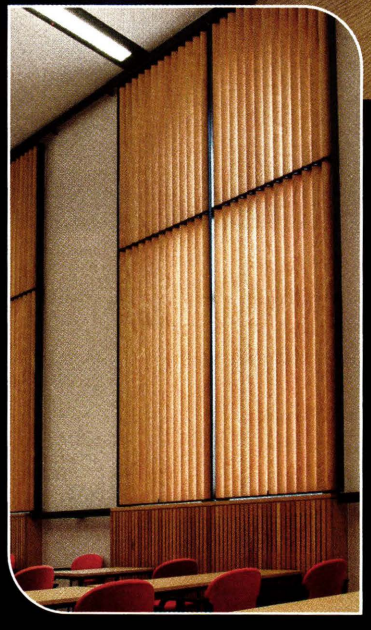
The building's main theater opened in September. A quiet water court off an indoor exhibition room on the fifth floor is also completed and exemplifies the serenity for which Ando is known. Many of the ancillary spaces—including a café, restaurant, and multipurpose hall—were not yet open at the time of this writer's visit in February. And the building's various covered terraces occupying the spaces inside some of the building's giant tubes were not in use: they were roped off, as "public" areas often are in China. It is difficult to predict how well they will be used.

It is similarly unclear how well the building will work as an icon for Jiading. Cultural centers can be important place-makers in new towns in China that lack churches, government halls, town squares, and other recognized nodes of urban life. But when every new building—from a theater to a shopping mall—tries to be unforgettable, the resulting cacophony can drown out even the strongest voice. Ando counters that the Poly Theater has enough landscaped areas around it that it will not be so affected by its neighbors. An even greater success would be that both the theater building and its public space are not only visually engaging but also physically active. Only in this way can any cultural complex become a real community center. ■

Clare Jacobson served as a correspondent and contributing editor in Shanghai for RECORD *for five years and recently became the head of publications for the Asian Art Museum of San Francisco.*

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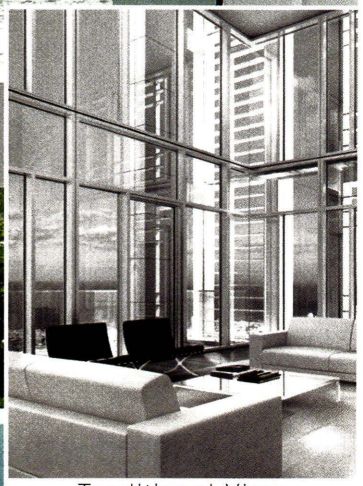
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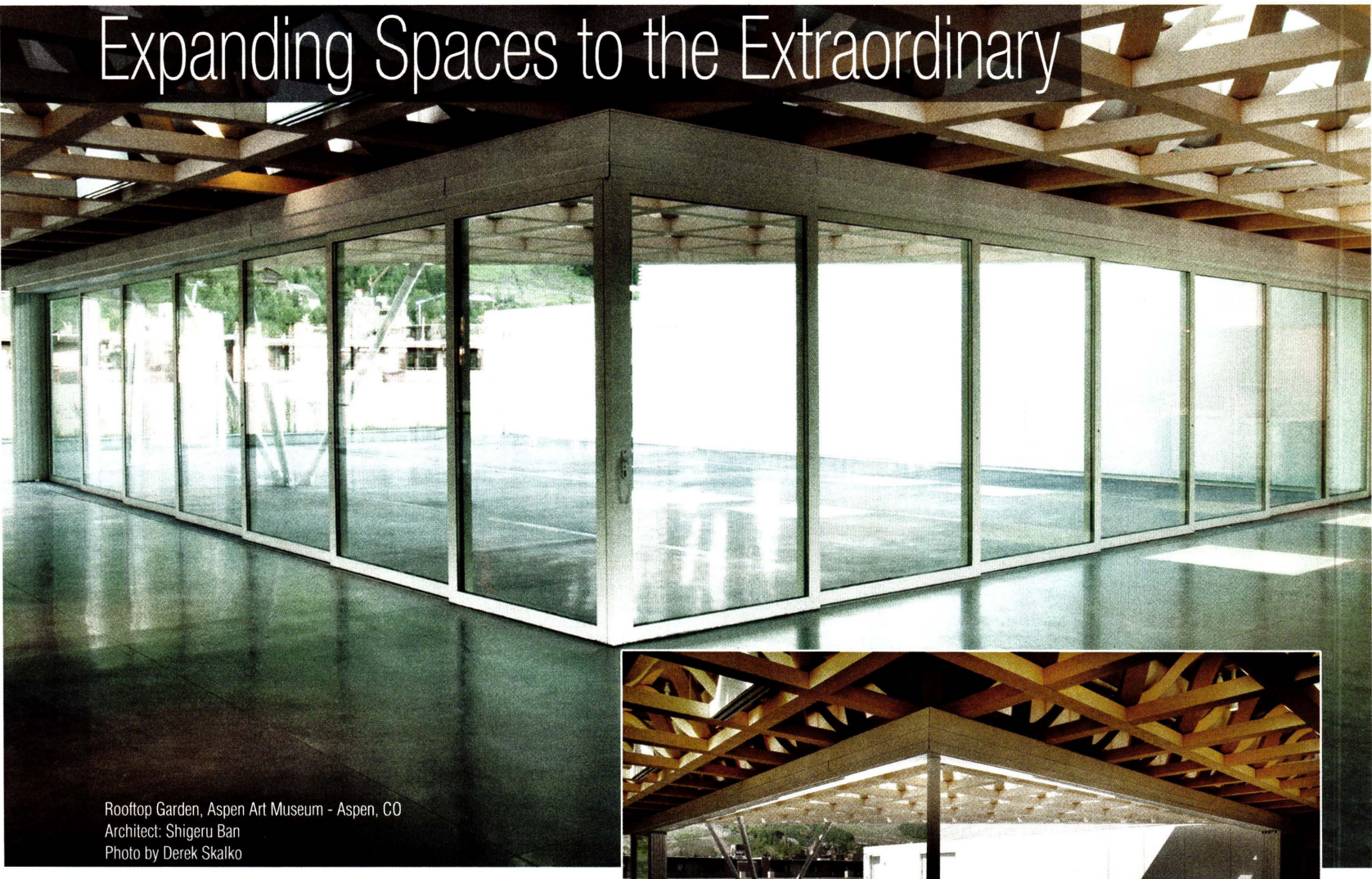
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Rooftop Garden, Aspen Art Museum - Aspen, CO
Architect: Shigeru Ban
Photo by Derek Skalko

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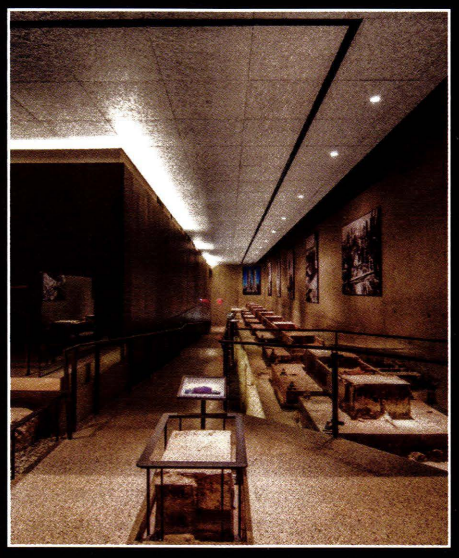
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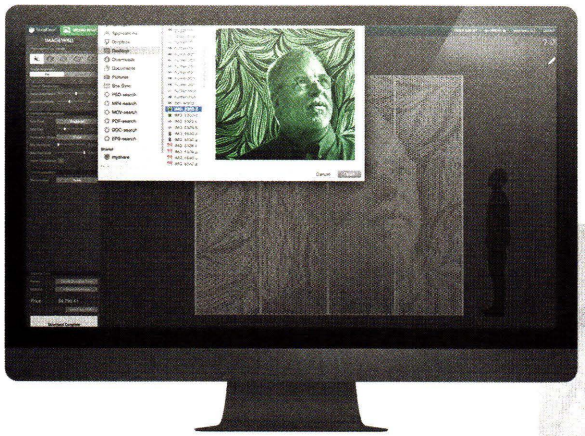
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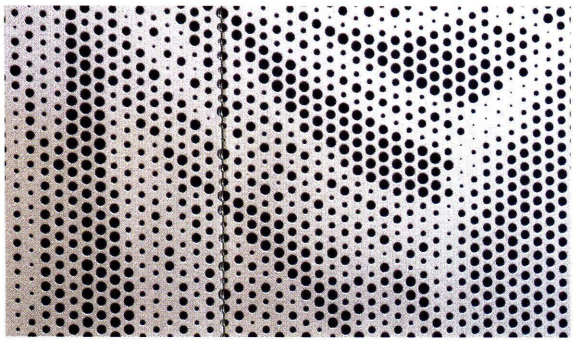
— *Craig Long*
Lead Engineer, ShopFloor™



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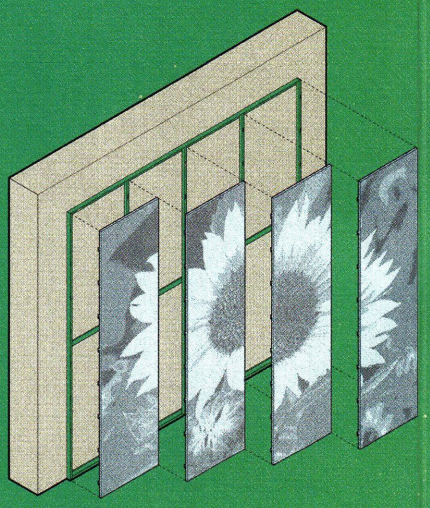
ImageWall™ is the next technological step for Zahner, whose team was also the first to develop and then patent* their original image-to-metal perforation system years ago. ImageWall™ brings an unprecedented level of museum-quality craft to perforated facades, with no visible fasteners, and seams that practically disappear. This level of quality was once only possible on the most expensive of projects. Now it comes standard with each new ImageWall™ shipped with ShopFloor™.

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* **Zahner Patent No. 7,212,688 B2,** Transferring an image to a building using a plurality of metal panels.

How to Build an ImageWall™

1. Create a free account with **ShopFloor.™** (You can use the code below to get a dedicated support staff on your team).
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3. Design your heart out. The app has an **"Upload Image"** button, allowing you to create designs using your own photographs, drawings, or images.
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Barneys Beverly Hills | Los Angeles
Steven Harris Architects

RETAIL THERAPY

A New York architect transforms unused spaces to give Barneys' Beverly Hills outpost a sumptuous makeover.

BY SARAH AMELAR

PHOTOGRAPHY BY TOM SIBLEY

From the top of the winding oval stair at Barneys in Beverly Hills, a curious quartet of glowing, sinuous objects, six stories down, inevitably catches your eye. As you discover at the foot of this dramatic marble stairway, they're perfume vitrines, curvy display counters lit from within. The luminous cosmetics floor they occupy was, until several months ago, a banal storage zone, a dark basement, off-limits to customers. Here and elsewhere in the building, Barneys' recent renovation opens up untapped spaces as it strategically ushers shoppers through the merchandise.

Though this multiphased work by Steven Harris Architects (SHA) and the interiors firm of Rees Roberts + Partners (RRP)—both based in New York—later included the street level and fifth floor, plus lightening of the exterior color, it all began with that utilitarian subterranean realm. (The other shopping floors—the second, third, and fourth levels—have not been renovated.) The client, who recently had SHA and RRP update sections of its New York flagship on Madison Avenue, was looking to expand without expanding, seeking greater retail opportunities within the existing envelope, a structure architect Peter Marino had created for Barneys in 1994. Tired and lacking its former clarity, the place suffered from what SHA principal Steven Harris describes as the "casino effect."

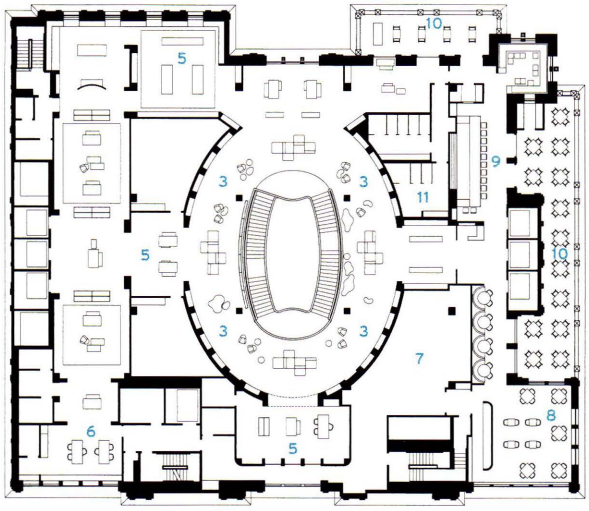
Certain original elements, however, had to stay, including the lavish, skylit, neo-Baroque stair: a grand stair is a signature Barneys feature, and this extravagantly costly one was still in good condition. But the entrance areas were ripe for renewal. The store's official front door opens from the sidewalk along Wilshire Boulevard, but, in this city of cars,



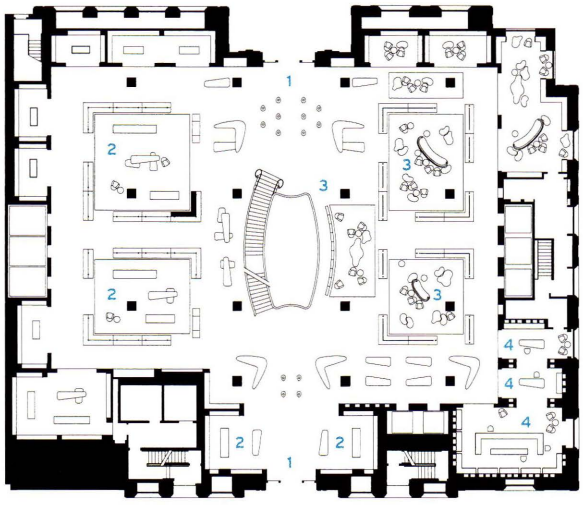
CAGE OF GOLD A scintillating screen of vertical brass rods encloses the footwear salon on Barneys' main floor. Transparent shelving displays footwear in individual LED-lit compartments. The architects designed the custom seating in the salon, incorporating elements of onyx, marble, and glass throughout for a luxurious ambience.

View additional images at architecturalrecord.com.

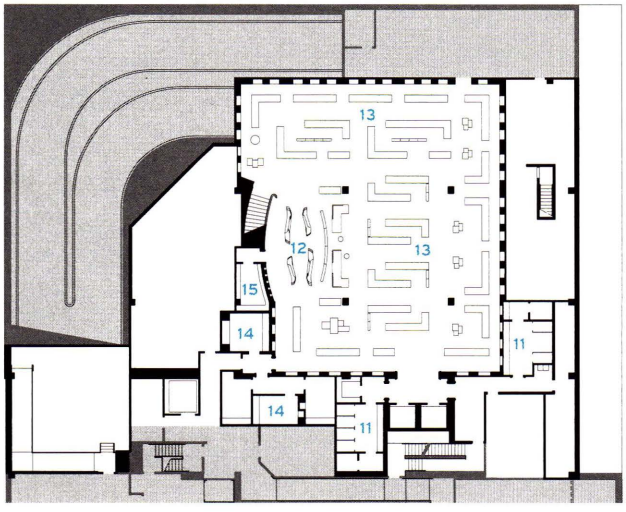




FIFTH FLOOR



GROUND FLOOR



LOWER LEVEL

0 30 FT.
10 M.

few shoppers arrive on foot, so the rear entry, beside valet parking, remains more popular. But one level down, off the parking garage, Harris saw a missed opportunity: here he created the entrance to the 8,000-square-foot cosmetics floor, a department his firm relocated from grade.

Before launching into redesign, SHA turned the irregularly shaped raw basement into a clean rectangle. "We made FAR [zoning floor-area-ratio] trades to give the space straight edges and four square corners. That was essential," says project architect Andrea Mason. Unlike most department stores, Barneys does not let vendors design their own counters or in-store boutiques. "So, without the typical mini-mall clash of brand identities," Mason continues, "we had the rare chance to compose a unifying setting."

Her team enlisted artist Mig Perkins to create rhythmic, abstract wall panels for the cosmetics level. A subtly animated backdrop, her all-white bas reliefs, grazed with LED lighting, have illusory depth. (Surprisingly, the reliefs are only ⅜-inch deep and made of painted CNC-milled MDF rather than cast plaster.) "Our great challenge," says Mason, "was to produce a clean, glamorous space to house hundreds of thousands of products—which, in so many department stores, becomes a mess." Back stock discreetly fills cabinets behind the sculptural wall panels. Nearby, SHA-designed vitrines with clear acrylic shelves intentionally reference the finely crafted cabinets of artist Damien Hirst, known for giving such mundane objects as pills or scalpels the aura of precious relics. (For the 17,000-square-foot street-level space, SHA designed a variation on the sculptural cosmetics-area paneling.)

To open the lowest level to daylight and offer continuity from the top floor, SHA extended the original stair down one more level, matching its marble steps and wrought-iron balustrades.

Now amoeba-shaped counters, rendered in materials as diverse as burnished steel or antiqued brass, form a recurrent motif throughout the store, echoing the outlines of the luminous ceiling coves that SHA also introduced. And inside the street-level entrances (which have reportedly drawn increased traffic since the renovation), pedestaled displays, with glass domes like cake stands, enshrine accessories. "Our constant play between graceful curvilinear and angular," says Harris, "is about inviting movement and leading your eye."

While a variety of devices frame choice items and more intimate areas, these gestures simultaneously reveal merchandise beyond. A Bertoia-inspired screen of vertical brass rods, for example, wraps a street-level footwear salon,

1 ENTRANCE
2 LEATHER GOODS
3 SHOES
4 JEWELRY
5 MENSWEAR
6 TAILORING
7 KITCHEN
8 DINING ROOM
9 BAR
10 TERRACE
11 RESTROOMS
12 FRAGRANCES
13 COSMETICS
14 TREATMENT ROOMS
15 STORAGE





STAIR MASTER
The marble grand stair, a Barneys signature, unites Steven Harris Architects' renovation. The architects designed custom vitrines, reminiscent of Damien Hirst's, to display merchandise across the sales floor.



RAISING THE BAR
Barneys' main floor also includes a fine-jewelry department (left), where baubles are housed in sleek marble display cases and backlit alcoves. A newly renovated men's department on the fifth floor includes a footwear rotunda (opposite), with a bar and restaurant, Freds (below), just off it. The architects juxtaposed a new terrazzo floor with materials such as laser-cut steel.





and, along the stair, bowed, clear shelving showcases a matrix of women's shoes, each jewel-like in its own glimmering, LED-lit compartment.

A similar display punctuates the men's shoe department, on the top floor, where SHA and RRP also redesigned the restaurant. This floor's spaces include a small tower, 14 feet square, with a 31-foot-high ceiling, formerly an enclosed office, which the architects transformed into an intriguing lounge. And a long-unused terrace has become a drinking and dining venue with panoramic views of the Hollywood Hills.

As one descends from the top floor, a downside of the renovation comes into view: the yet-untouched shopping floors, two, three, and four, look drab beside their fresher counterparts. But at the store's core, the theater of the grand stair thrives. The architects have modulated and balanced that with equally luxuriant yet finer-grained spaces and modern gestures. Now customers, many youthfully clad in shabby-chic attire, drift up and down the marble steps, past $1,100 sneakers in shimmering transparent perches. ■

credits

ARCHITECT: Steven Harris Architects – Steven Harris, partner in charge; Andrea Mason, project architect

ARCHITECT OF RECORD: Kenneth Park Architects; Gruen Associates

ENGINEERS: Englekirk Structural Engineers (structural); Infrastructure Factor Consulting (m/e/p)

CONSULTANTS: Rees Roberts + Partners (interior); Cooley Monato Studio (lighting)

GENERAL CONTRACTOR: Shawmut Design and Construction

CLIENT: Barneys New York

SIZE: 43,000 square feet

COST: withheld

COMPLETION DATE: September 2014

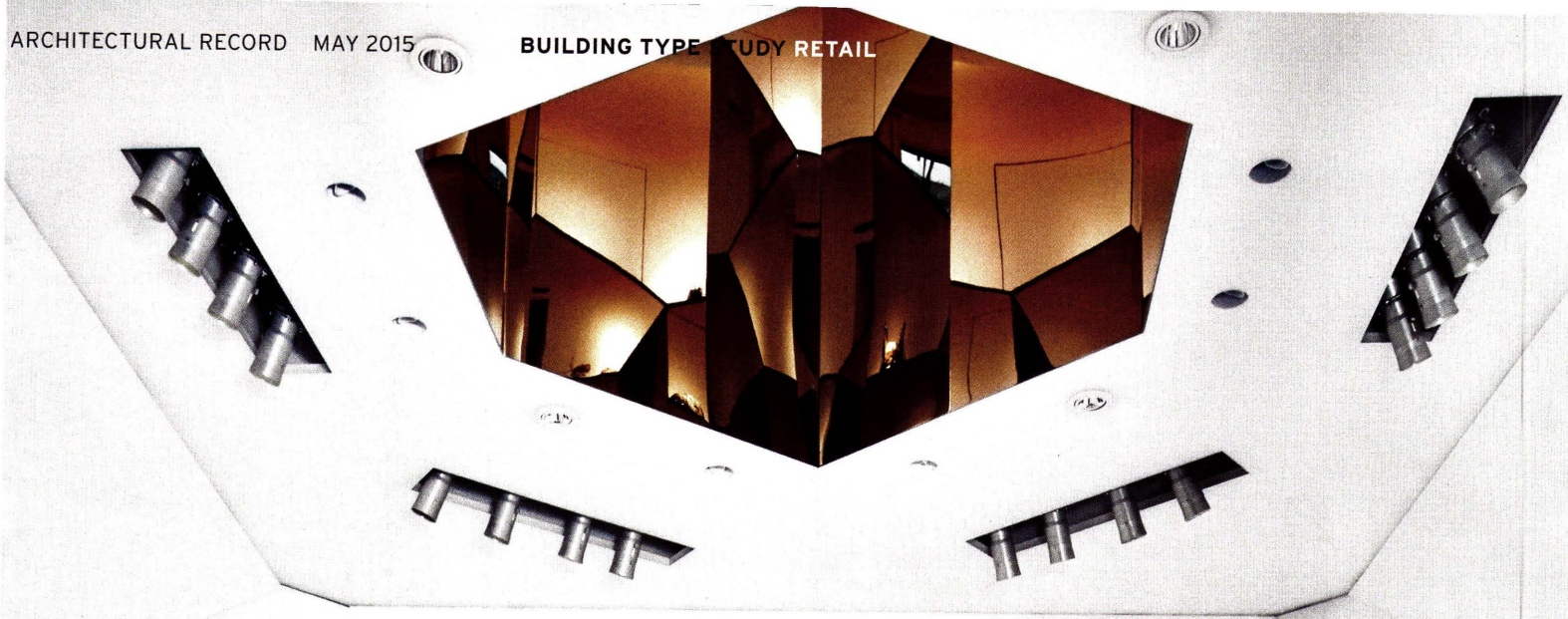
SOURCES

HARDWARE: Rajack

WALLCOVERINGS: Phillip Jeffries

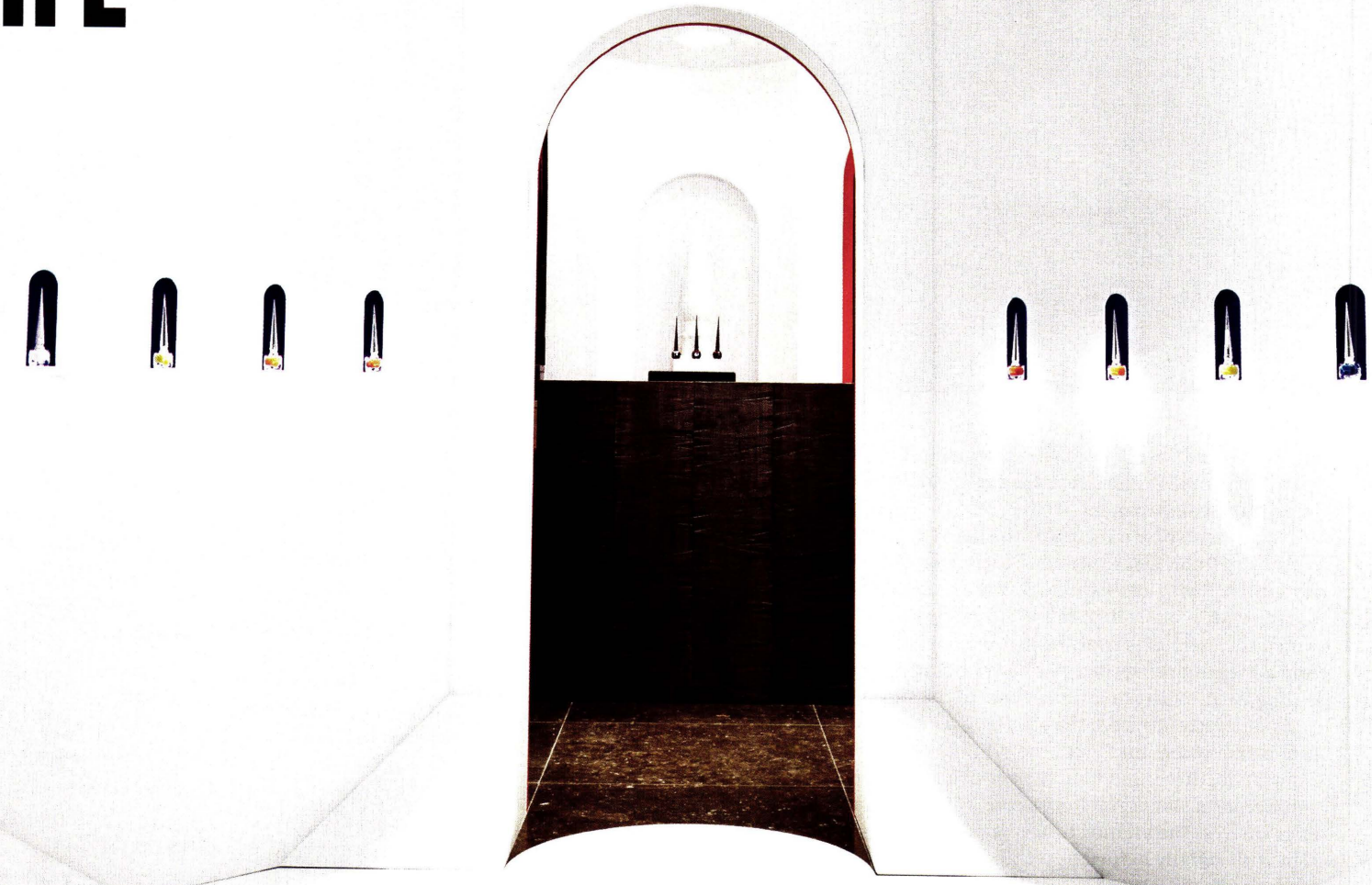
FURNISHINGS: Custom by Rees Roberts + Partners

LIGHTING: Louisville Lamp, Selux, Aculux, Eklipse Lighting



Christian Louboutin Beauty Store | Paris | Pierre Yovanovitch Interior Architecture

THE LACQUERED LIFE



A tiny Parisian boutique devoted to a new line of nail polish by Christian Louboutin beckons to the beau monde.

BY HATTIE HARTMAN

PHOTOGRAPHY BY JULIEN OPPENHEIM

If Cruella de Vil were to open a Parisian nail polish boutique, this would be it—and she would most likely be sporting red-soled Christian Louboutin stilettos to match. In a premiere location in the city's 1ère arrondissement, Christian Louboutin has colonized one of Paris's 19th-century covered passages, Galerie Véro-Dodat. Built in 1826 as a shortcut between Palais-Royale and Les Halles, Galerie Vero-Dodat was once home to purveyors of antique dolls and high-quality art books. Today it is a magnet for Christian Louboutin aficionados, with a busy women's shoe salon, the brand's first men's boutique (opened in 2011), an elite cobbler, and a nail polish boutique inaugurated in January.

In his international launch of the new beauty line, Louboutin created a model of an imaginary city where the faceted glass nail polish bottle, with its 8-inch stiletto cap, is featured prominently. The architecture of Loubiville, an all-white, bizarre take on the Land of Oz, also attests to Louboutin's admiration of Oscar Niemeyer. For a fetishistic version of the city and the $50 polish, see David Lynch's 45-second film, which has garnered over 200,000 views on YouTube.

Given the meticulous attention to detail so evident in Louboutin's shoes, the Galerie Véro-Dodat nail boutique is something of a disappointment—a cacophony of styles and materials in the tiny 540-square-foot space. The work of French interior designer Pierre Yovanovitch, the boutique is conceived as "a temple to beauty," according to project architect Marc Leschelier. The shop is divided into three distinct spaces: an entrance gallery, a sales area, and an upstairs boudoir for VIP clients. In lieu of a conventional shop window, Yovanovitch opted for an all white gallery-like space fronting Galerie Véro-Dodat, so it's not obvious from outside whether this is a store at all. Potential shoppers hover outside the window, peering in as they wonder whether to enter.

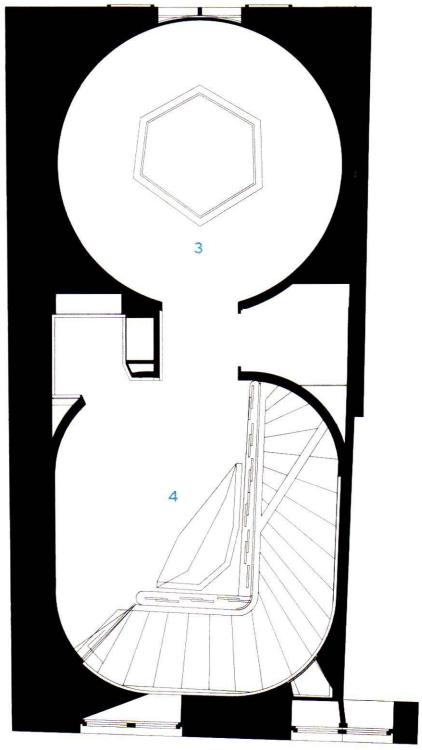
Intended as a reference to the design of the bottle, the front gallery space has a mirror-clad shaft in the ceiling that required a special permit from the Architectes des bâtiments de France because of the building's historic status. The hexagonal opening provides a glimpse of the second-floor ceiling and is illuminated with a video projection of passing clouds. The 31 colors of nail polish are displayed in bottles inside individual arched niches—a Louboutin signature also prevalent in the adjacent shoe salon—that contribute to the gallery feel. Walls lined with semitranslucent white Methacrylate, a high-quality plexiglass with a "frozen" finish, and a white composite-marble floor complete the space. Leschelier describes the unusually prominent—and seemingly arbitrary—joint pattern in the floor as a "*geste*" (gesture).



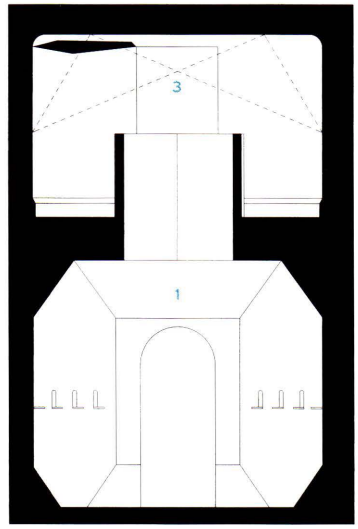
The inner sanctum of the shop employs a contrasting palette of materials, including Belgian blue stone (a type of limestone) flooring, a burnished-copper stair banister that again incorporates Louboutin's signature niches, and a reception desk and shelving in rough-hewn solid oak that look out of place in this luxurious setting. A disproportionately wide 3½-foot stair—required by building regulations—leads to an upstairs "boudoir" where beauty treatments will take place. Here, in a departure from the angular

NE PLUS ULTRA
A miniscule shrine opens off the 19th-century arcade (above). Inside, "staff" (a mixture of plaster, glue, and fiber) shapes the spaces. A hexagonal opening in the ceiling (opposite) gives a glimpse of the floor above.

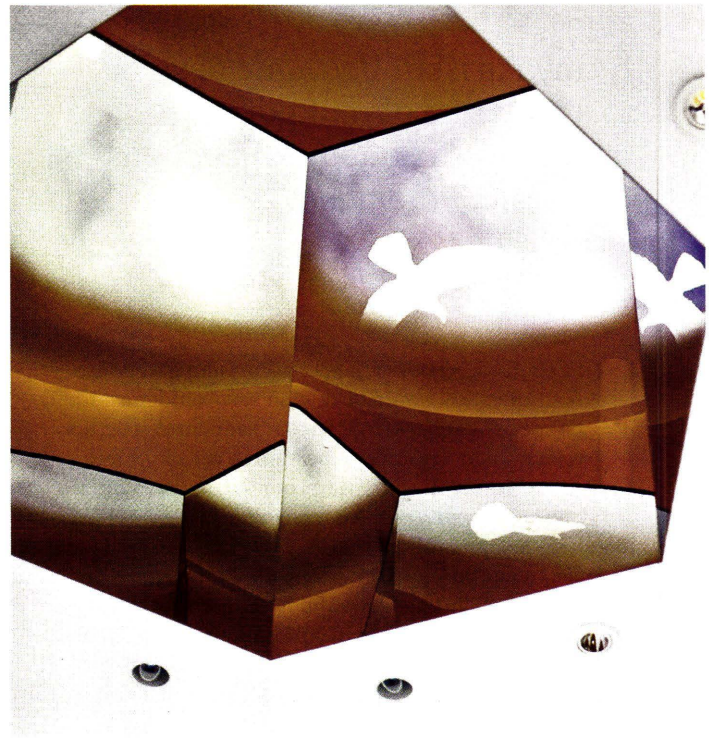
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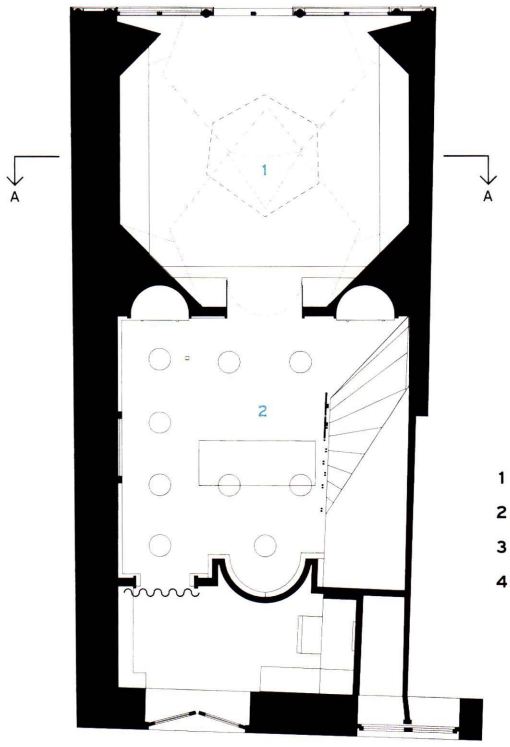
SECOND FLOOR



SECTION A - A



CHACUN A SON GOÛT Inside the shop, the architectural moods change: the more angular ground floor features a cashier's desk and shelves of rough oak (opposite). Up the stairs, edged by a looping moderne bannister, is a curved boudoir-like setting for beauty treatments. A video of passing clouds (above) on the second-floor ceiling can be seen through the hexagonal opening.



1 SHOWROOM
2 SALES FLOOR
3 GALLERY
4 MANICURE/VIP SPACE

GROUND FLOOR



ground floor, voluptuous curves prevail. Rounded cornices of sculpted gypsum plaster in beigey-pink tones are complemented by plush sofas.

For Christian Louboutin's first nail boutique, Pierre Yovanovich has created three disparate spaces that fail to cohere as a unified whole. The design has neither the whimsy nor the daring of Louboutin's red soles, the Cruella de Vil nail polish bottle, or Loubiville. Nevertheless, given the brand's 1.7 million-strong Twitter following, Louboutin's nail polish is likely to fly off the shelves. ■

Hattie Hartman, an American architect, is an editor of The Architect's Journal *in London.*

credits

DESIGNER: Pierre Yovanovitch Interior Architecture
CLIENT: Christian Louboutin
SIZE: 540 square feet
COST: withheld
COMPLETION DATE: December 2014

SOURCES

PAINT: Atelier Mériguet-Carrère
LIGHTING: Feerick
PLASTIC LAMINATE: IDEM
FABRIC FOR BLIND: Polyabaca



Maison Ullens Paris | Paris | OMA

SOFT SELL

The rich materials of a flagship boutique mirror the quiet luxury of the clothing brand.

BY HATTIE HARTMAN

PHOTOGRAPHY BY KEVIN MAK





GOLDEN DOOR
Along rue de Marignan, a quiet street in Paris, is the OMA-designed flagship boutique for Belgian clothing brand Maison Ullens (opposite). The architects employed diverse materials including onyx, cream-colored leather, and brass, with which they framed the openings (this page).



Most haute couture boutiques in Paris's Golden Triangle, the city's luxury shopping district off the Champs-Élysées, don't even have signs. Names like Christian Dior are inconspicuously carved into the stone facades, while others—like Versace and Salvatore Ferragamo—are discreetly indicated on awnings. So how does a Belgian newcomer on the block establish an haute couture women's clothing brand among such heavyweights?

That was the challenge given to OMA by Maison Ullens founder Myriam Ullens, whose casual-chic knitwear and leather collection is aimed at the international traveler. Frustrated by the lack of stylish yet comfortable clothing that could be unfolded from a suitcase and ready to wear to an important occasion, Ullens designed her own. Cashmeres specially woven in Italy and ultrasoft leathers are combined in muted colors to create versatile pieces with price tags upward of $500.

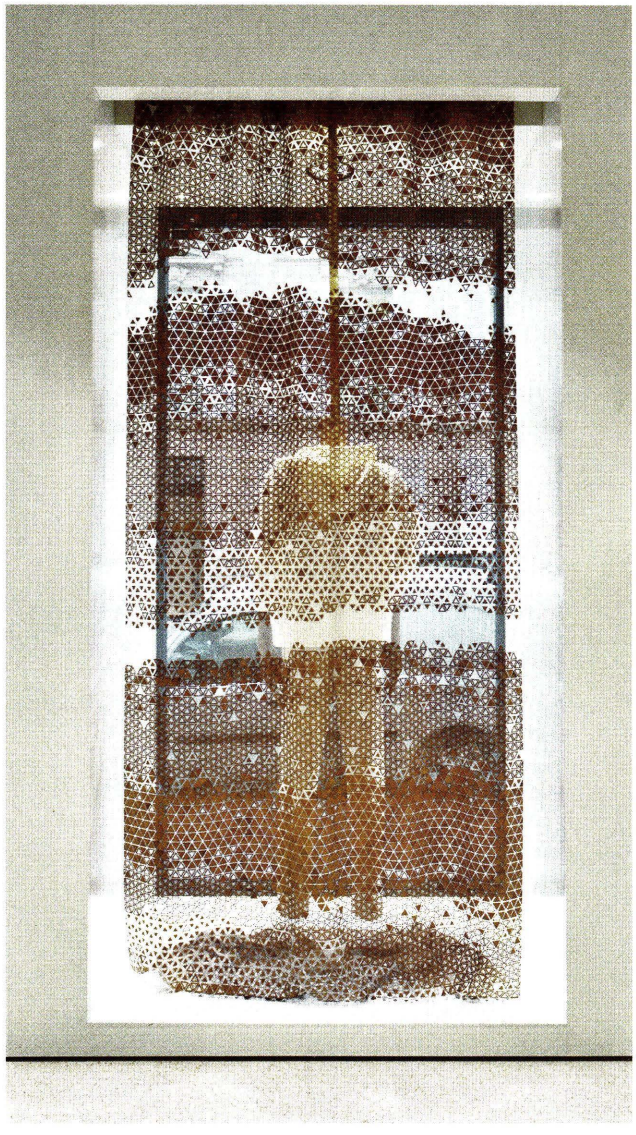
Following a pilot boutique designed by Belgian interior architect Lionel Jadot, which opened in 2013 in Aspen, Colorado, where Ullens has a home with husband Guy, the fashion entrepreneur set her sights on Paris. When Ullens approached OMA's Hong Kong office—with whom her husband had worked previously—her only remit to the architects was to create a flagship boutique appropriate to her brand. Neither Ullens nor her husband are put off by ambitious projects. They had earlier commissioned Jean-Michel Wilmotte and Qingyun Ma to transform a 1950s industrial building in Beijing into the Ullens Center for Contemporary Art—opened in 2007—to house their personal collection of more than 1,000 pieces.

OMA visited several potential locations in the Golden Triangle with Ullens. Despite being on a quiet side street, a building on the rue de Marignan proved best—even though it was subdivided into three separate spaces by 2-foot-thick existing walls that could not be altered. "If you were to build a new store, you would never do it this way, but it provided an opportunity to create layers within the space," explains OMA managing partner David Gianotten.

Ullens highlighted eight key attributes she wanted her boutique to convey: comfort, exclusivity, care, femininity, art, voyage, detail, and senses. "These qualities specified the vibe, but not the materiality of the space," says Gianotten. It was the subdued luxury of the clothing itself that gave rise to an architectural vocabulary he describes as simultaneously "minimalistic and tactile."

"We chose to work with materials that transition over the course of the day," explains Gianotten. Onyx, cream-colored leather, terrazzo and carpet, brass and teak create an airy and neutral yet sensual backdrop for Ullens's set pieces, the fashion. As one mounts three steps to enter the boutique, a glazed door automatically glides silently sideways, opening into an intimate foyer. Visitors are greeted by two Ullens-draped mannequins that stand juxtaposed against a full-height onyx wall.

Composed of ¾-inch-thick sheets, which range in size



CURTAIN CALL
Custom wood curtains (above and right) were handmade by artist Elisa Strozyk for the boutique's front windows.

from 2 to 3 feet square, the onyx is wet-fixed to the wall, which creates a translucent effect. Immaculate attention to detail pervades the store. Faux leather is folded around hard foam on a plywood backing and then top-stitched, using patterns based on Haussmannian molded wall details, with blind stitching that creates a rectangular paneled effect. A ¼-inch-thick copper profile delineates the joint between the carpet and the terrazzo floor. Other walls are clad in acid-etched glass back-painted white. Woodwork throughout is teak veneer in 2-foot-wide panels, prefabricated in Italy. The architects brought life to the existing thick walls by cladding the framed openings in natural brass; a short passageway brings one face-to-face with a bold wall-hung Anish Kapoor—part of the Ullenses' personal art collection. The passage leads to cocoonlike fitting rooms lined in curved teak. The ensemble exudes an atmosphere of understated exclusivity.

Although early spring sales were slow at the rue de Marignan, OMA is currently at work on a second store in an undisclosed location, as well as a prototype "shop-in-shop" design, which Ullens plans to roll out in department stores. A popup shop on London's Walton Street is testing the UK market.

Gianotten observes that Ullens's personality permeates the business. Telltale signs are the boutique's logo, which is subtly embossed on brass hooks and woven into the carpet. "The project was very special. Clients who are so personally involved are rare," he adds. There is no disputing the visual appeal of OMA's elegant boutique for Maison Ullens. Whether that will translate into lucrative sales for the nascent Belgian clothing brand remains to be seen. ■

CLOTHES ENCOUNTERS
Through the glazed main door, an onyx wall in the foyer greets visitors and shows off the brand's latest collection (below). The sales spaces unfold beyond.





1 ENTRANCE
2 LOBBY
3 SALES FLOOR
4 DRESSING ROOM
5 SALON
6 PRIVATE FITTING
7 BAR
8 OFFICE
9 SERVICE LOBBY



FLOOR PLAN



credits

ARCHITECT: OMA – David Gianotten, partner in charge; Inge Goudsmit, project architect
ARCHITECT OF RECORD: DATA Architects
ENGINEERS: BET Louis Choulet
GENERAL CONTRACTOR: Reponse
CLIENT: Maison Ullens
SIZE: 1,000 square feet
COST: withheld
COMPLETION DATE: January 2014

SOURCES

ONYX WALL: Antolini
CARPET: Tai Ping Carpets
WOODEN FACADE CURTAIN: Custom by EMES Elisa Strozyk in collaboration with OMA
LIGHTING: Zumtobel
TERRAZZO FLOORING: Flowcrete



CHAMBER OF SECRETS
A private fitting room tucked into a corner of the store (right) is lined in curved teak (prefabricated in Italy) and plush carpeting.



Photo courtesy of Draper, Inc., Spiceland, Indiana

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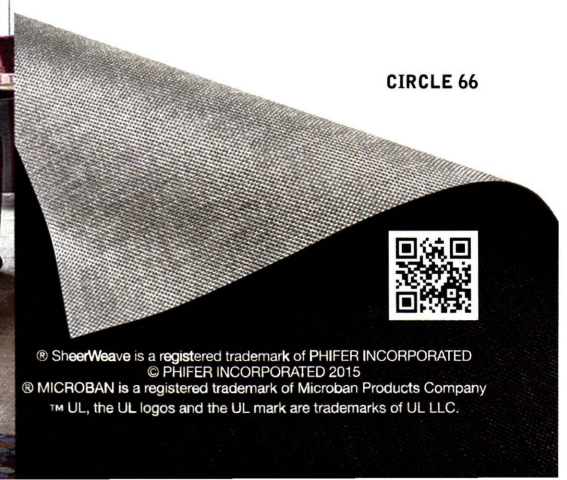
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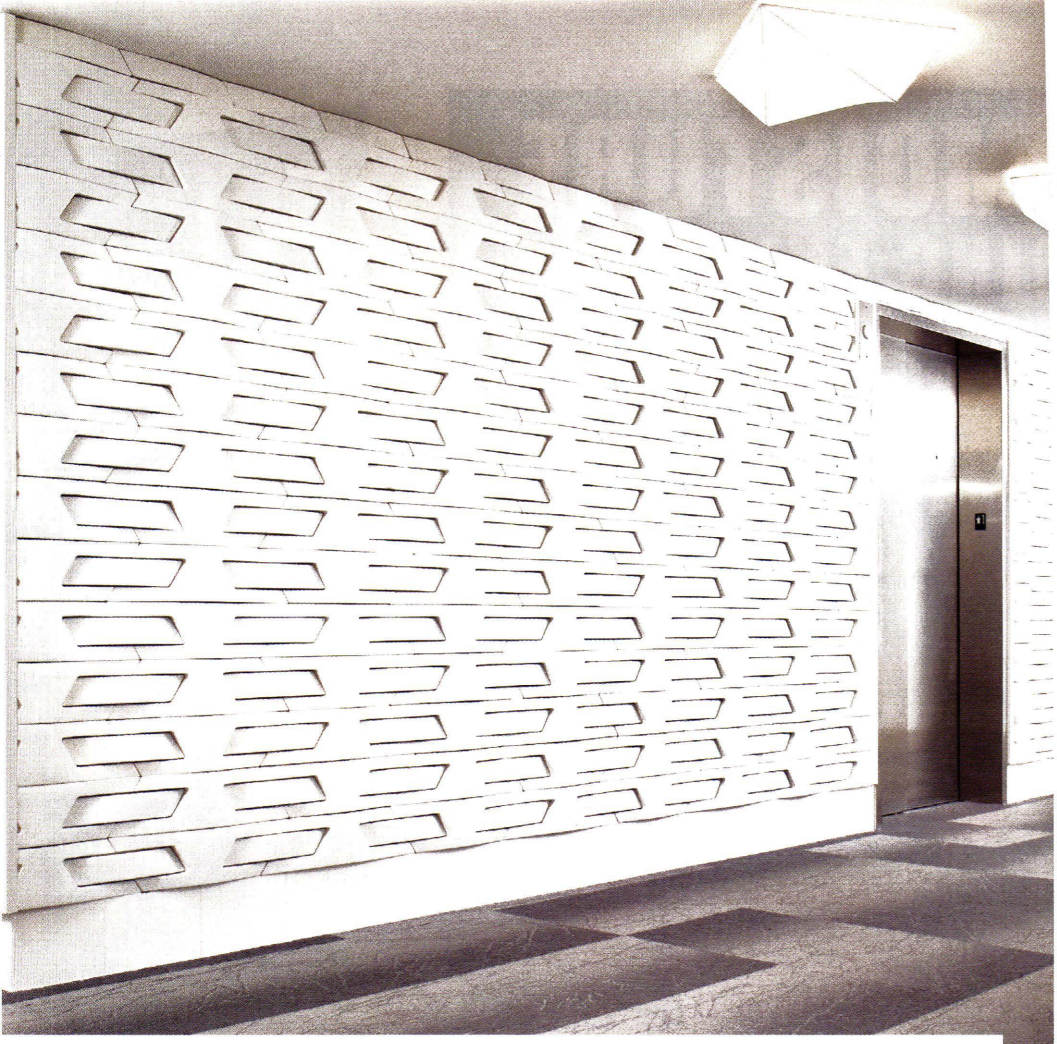
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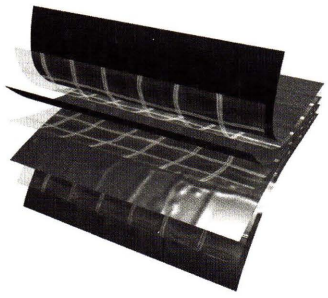


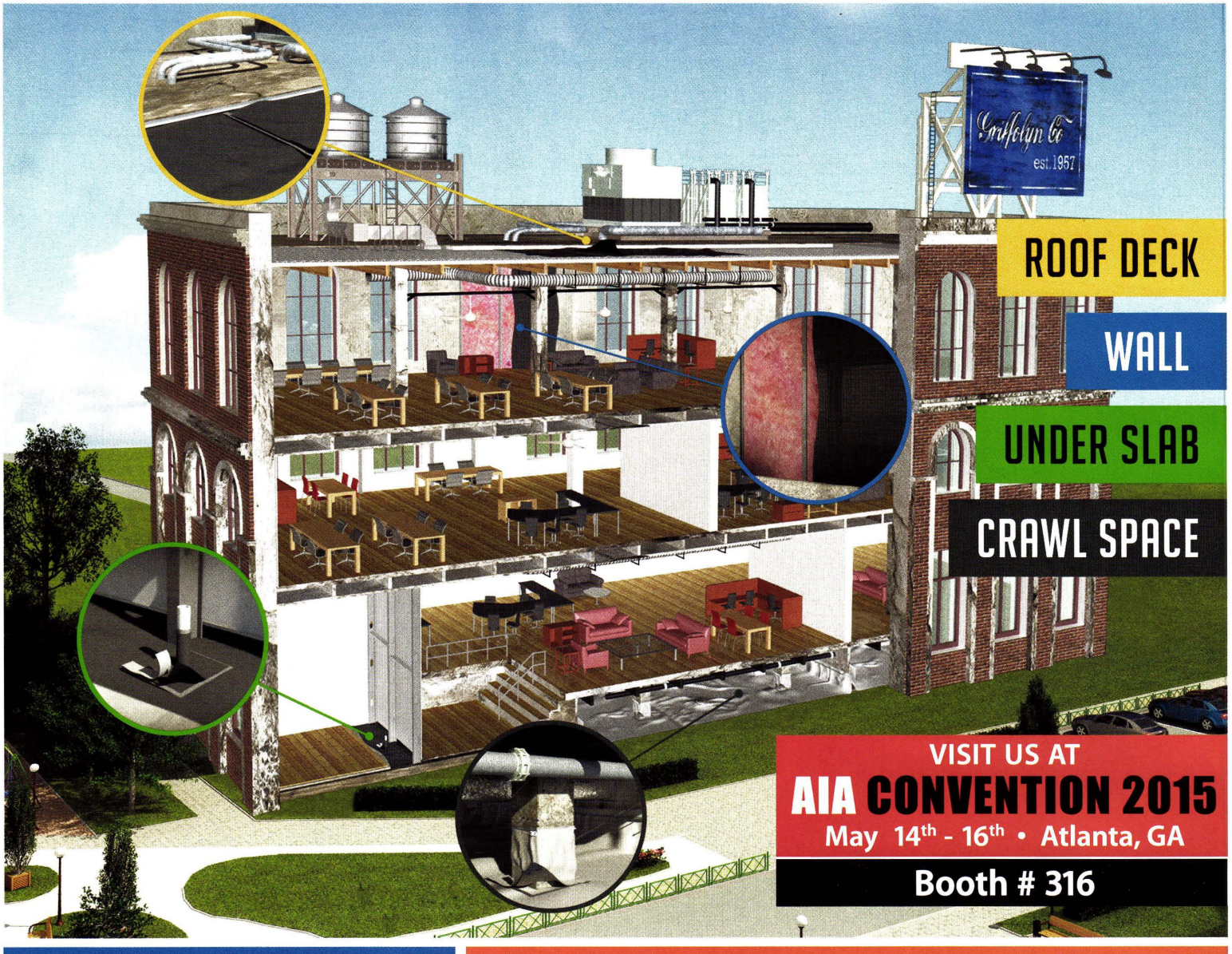
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ARCHITECT: Fentress Architects

ASSOCIATE ARCHITECTS: Davis Davis Architects

LANDSCAPE ARCHITECT: Civitas, Inc.

GENERAL CONTRACTOR: Hensel Phelps Construction Co.

INSTALLER: Valley Crest Landscape Development



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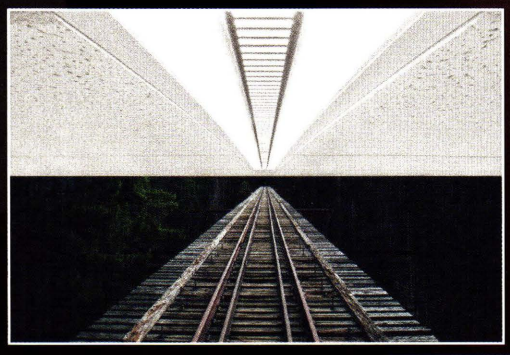
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CIRCLE 140

In a New Light

Just as a fresh coat of paint can transform a dated room, lighting design goes a long way toward breathing new life into old buildings, as seen clearly in the projects here. A colorful light wall attracts tech-savvy tenants in an iconic tower in Boston, golden swaths of light turn a disused cinema into a four-star hotel in London, and a custom-designed chandelier becomes the focal point of the new residential lobby in Verizon's office building in New York.

236 177 Huntington Avenue
240 Dorsett Shepherd's Bush Pavilion
245 Stella Tower Lobby
249 Products

PHOTOGRAPHY: © HALKIN MASON

177 HUNTINGTON AVENUE, BOSTON

177 Huntington Avenue

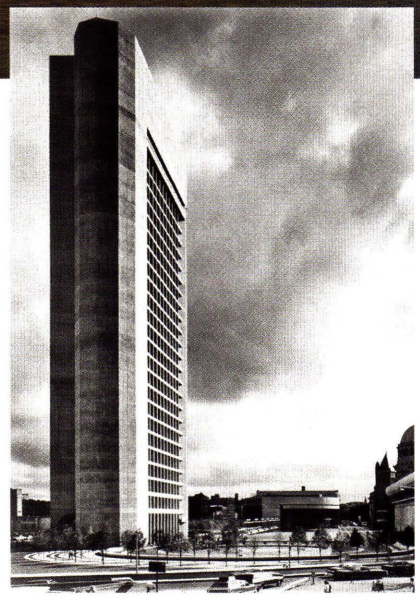
Boston
NBBJ
ESI Design

By David Sokol

IN BOSTON, where progressive buildings can be polarizing, the Christian Science Center offers a rare example of Modernism that wins both critical and public acclaim. Designed by I.M. Pei Associates' Arnaldo Cossutta in the 1970s, the religious headquarters is praised by historians for its abstract cornices and colonnades and loved by Back Bay residents for the reflecting pool around which Sasaki Associates crafted the facility's 14-acre plaza.

There is one group of Bostonians not enthralled by this landmark: office tenants. Or so Beacon Capital recognized during its 2012 acquisition of 177 Huntington Avenue. Conceived as the church's administration building, the 26-story tower's long, narrow floorplate means minimal meeting space on tenant floors and a protracted entry sequence in the 6,500-square-foot lobby.

As a major tenant prepared to vacate nine floors of 177



PHOTOGRAPHY: © HALKIN MASON; YUKIO FUTAGAWA/GA (INSET)

View video at architecturalrecord.com.



Huntington in late 2012, Beacon tapped ESI Design—a regular collaborator on its renovation projects—to make the lobby more competitive in the real-estate market. The New York–based experience-design studio subsequently partnered with NBBJ on the revamp, which was completed last summer.

The need for some enhancements was obvious. The original reception desk was too narrow to receive a multitenant office building's numerous visitors, and the interior lacked security turnstiles cordoning off the faceted elevator bay. The design team created these elements, while also replacing original waxed-brick floors with large-scale limestone-colored terrazzo that reflected more light throughout the ground floor. It then filled that brightened space with amenities like a café and lounges that, as Katy Flammia, lead interior architect of NBBJ's Boston office, explains, "relieve the pressure on meeting space upstairs."

Seating areas line the interior of the tower's largely opaque Huntington Avenue elevation, which, according to Chris Niederer, who led physical design for ESI, Cossutta had intended for exhibiting art. In reinventing this zone as niches for meetings, ESI created a so-called Light Wall to draw attention to the new seating.

The Light Wall comprises eight horizontally mounted, 93-foot-long structural-steel rails. Because structural columns are disengaged from this elevation, the rails are embedded in the backs of the columns using strut channels and standard fasteners; the inward faces of the rails themselves are covered in LEDs that shine onto the concrete wall.

"Instead of putting a screen between the building and viewer, let's use the building as a screen," ESI senior tech and media designer Ed Purver says of the Light Wall concept. "The lights blend to create a seamless display on the wall."

UNITED COLORS
The colonnaded elevation opens to the plaza (opposite). The brushed-finish rails of the 7-foot-tall dynamic Light Wall are covered in LEDs (96 pixels per bay at a 30-millimeter pixel pitch) shining onto the concrete wall that faces Huntington Avenue (above). An archive photo of the tower (inset, opposite).



Niederer concurs, noting, "We're adding a layer of information to the concrete."

Indeed, the LEDs illuminate the wall in three patterns—one mimics sunshine filtering through lobby windows, another ripples like the plaza's reflecting pool, and the third is a particle effect that evokes leaves or snowflakes—whose transitions from one to the other are almost imperceptible. The patterns also change in color, direction, speed, and angle to correspond with information gathered from data source Weather Underground. "We've tried to bring in an element of story and experience, to make a place where people want to learn and linger," Purver says of synchronizing illumination to environmental cues.

Beyond the turnstiles, NBBJ and ESI packed a punch. Eleven 4½-inch-wide brushed stainless-steel housings, mounted to each corner of the elevator bay's 24-foot-tall walls, contain high-resolution LED panels that cascade with weather reports, financial updates, and other news also pulled from the Internet. As with the Light Wall, the medium is run by custom software applications created in the visual development platform TouchDesigner. Visualizations are generated in real time, and are occasionally interspersed with video and photography.

"As a counterpoint to the Light Wall, we created something in the elevator bay that is much more sharply defined and informational," Purver says. Together, the two interventions engage in historical dialogue with 177 Huntington, and rebrand the tower as a premier destination for doing business. ■

FALL INTO LINE
Thin stainless-steel housings, mounted to each corner of the elevator bay's 24-foot-tall walls, contain high-resolution LED panels that cascade with weather reports, financial updates, and other news.

credits

ARCHITECT: NBBJ

DESIGNER: ESI Design

CONSULTANTS: IC Tech (systems integration); Audio, Video & Controls, Inc. (software production); Mystic Scenic (fabrication); Available Light (lighting)

CLIENT: Beacon Capital Partners

COMPLETION DATE: August 2014

SOURCES

CONTROLS: Crestron



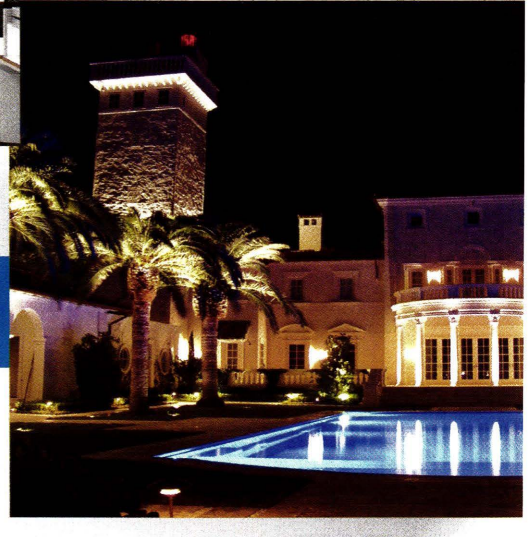












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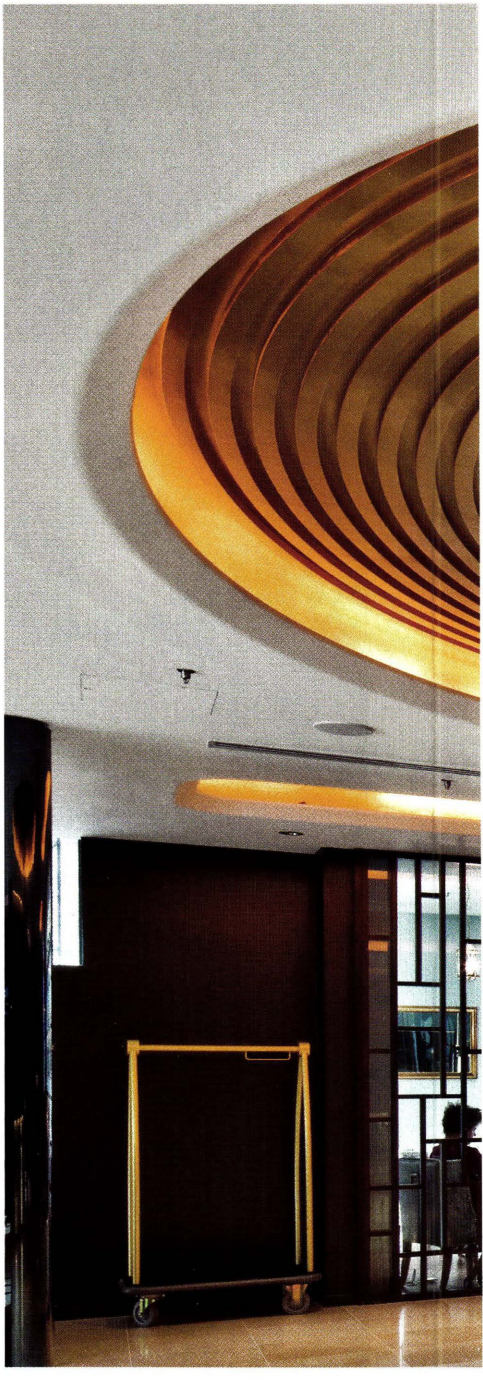
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CIRCLE 74





Dorsett Shepherd's Bush Pavilion

London

Flanagan Lawrence

EQ2 Light

By Chris Foges

BATHED IN flattering golden light, the foyer and atrium bar of London's Dorsett Hotel subtly evoke the Art Deco glamour of the roaring '20s. The style connotes a fitting combination of refinement and pleasure, but here that is particularly apt, since architect Flanagan Lawrence created the hotel from the former Shepherd's Bush Pavilion, built in 1923 as a 3,000-seat movie theater.

The pavilion's heyday was short-lived: a bomb took out much of the interior in 1944. Between crude repairs and later neglect, nothing of architectural value survived within. The largely windowless facades and barrel-vaulted roof were also in poor condition, but conservation authorities insisted that their appearance be preserved. "Our challenge," says project director Jason Flanagan, "was to fit 320 bedrooms behind a facade that they would accept."

The architects replaced parts of the brick facade with a curtain-walled structure behind a light-permeable terra-cotta screen that resembles solid brickwork. Above, the form of the original roof has been recreated with overlapping glass panels. Most bedrooms face outward, toward streets and a park, but almost 100 look into

COME FULL CIRCLE The facade's round-arch entry helped inspire a language of circles and curves within the restored interiors (above, left). The ceiling of the 4,000-square-foot foyer features a round alcove, 20 feet across, containing a gilded relief of concentric circles (above). A 1950s photo shows the cinema's incarnation as the Gaumont Theatre (inset).





the central glass-roofed atrium, from which they receive borrowed daylight.

Referencing the roof profile and the facade's round arches, as well as decorative details gleaned from photographs, Flanagan Lawrence developed a language of circles and curves for the hotel's public spaces, accentuated by artificial light.

It begins at the arched entrance, where a domed structure sits behind triple-height glazing. With its golden surface washed by LEDs concealed within an overhead cornice, the vault acts as a giant lantern, emitting a soft orange glow. Inside the foyer, the eye is drawn to a round alcove in the ceiling containing a gilded relief of concentric rings uplit by LEDs hidden by a perimeter cornice.

Though Flanagan and the lighting designer, Mark Hensman of EQ2 Light, intended that visitors should perceive the foyer as a "dark" space whose only illumination comes indirectly from the coffers, the decorative lighting elements are supplemented by 30 "dark light" downlights—fixtures whose reflectors are polished to obscure the source of ambient light.

The gentle indirect lighting amplifies the contrast between the pale ceiling

PHOTOGRAPHY: © ANTHONY WELLER



TAKE THE STAGE Composed of glass-reinforced gypsum, the stunning hoops encircling the eight-story atrium recall theater balcony fronts. Initially conceived as acoustic absorbers, they allow quiet conversation in the lofty space and provide atmospheric illumination.

and limestone floor and the dark wood walls. Polished materials become secondary light sources; reflected light flashes off the brass check-in desk and lends a laquerlike luster to glossy black aluminum columns.

Intense or direct lighting is used to form "stepping stones" encouraging a natural progression from threshold to check-in to elevators, says Hensman. "We use it as a subliminal way of guiding people around the building."

The hotel's centerpiece is revealed at the end of the foyer. Six gold hoops encircle the eight-story atrium, recalling theater balcony fronts. Diverting attention from the dark bands of bedroom windows, they also provide atmospheric illumination, housing continuous LED strips that seep light through hundreds of vertical slits.

The hoops succeeded an earlier design for a pendant light fixture and, says Hensman, are themselves "effectively a big chandelier—one that happens to be part of the architecture."

Precise placement of fixtures and detailed design research led to the scheme's success, which owes as much to psychology as technology. The design defers to a person's innate understanding of natural light, Hensman observes. As day turns to evening, a lighting control system dims the light while gradually warming its temperature from 3,000 to 3,700 Kelvin.

Overall levels of illumination are of little importance in hotels, where mood is what matters, says Hensman. At the Dorsett, dramatic effects are achieved with theatrical means, using suggestion and distraction while suppressing evidence of technique. From a former theater, the designers have created a new stage for hotel guests, where lighting sets the scene but doesn't steal the show. ■

credits

ARCHITECT: Flanagan Lawrence

LIGHTING DESIGNER: EQ2 Light

CLIENT: Kosmopolitan Hotels

COMPLETION DATE: October 2014

SOURCES

LIGHTING FIXTURES: Concord, Lucent (downlights); Fagerhult, Cube, Radiant Architectural, Light Graphix (interior ambient lighting)

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Stella Tower

New York

Jarvis Studio

By Josephine Minutillo

PHOTOGRAPHY: © JAMES EWING

THE BUILDING is an Art Deco gem in the middle of New York's gritty Hell's Kitchen neighborhood. Designed by Ralph Walker—heralded in a 1957 *New York Times* article as the "architect of the century" but long since fallen into obscurity—the 19-story, dramatically setbacked, and ornately detailed structure was originally built for the New York Telephone Company in 1930. Redubbed Stella Tower, part of it remains an office building for a telecommunications giant—Verizon—but its upper floors are being converted to luxury apartments to take advantage of an unquenchable demand in that sector of Manhattan's red-hot real-estate market.

Over the years, much of the lobby's luster was lost behind layers of dark paint, fluorescent strip lighting, and Verizon-installed security booths, still visible in the portion of the ground floor that Verizon retains. For an 800-square-foot lobby sectioned off for residents (apartments will go for as much as $15 million) a dramatic makeover was needed. "Our goal was to create a space people wanted to be in, not one they wanted to go away from," says designer Jarvis Wong of Jarvis Studio.

Wherever possible, original Art Deco details—elaborate bronze grilles with geometric patterns, intricate floral motifs, terrazzo flooring—were restored and refinished. But key to Wong's overhaul was to make the space lighter, brighter, and more uplifting. The heavy terra-cotta walls, with their crimson color and busy pattern, were "holding the space back from being a luxury experience," Wong recalls. Amanda Garrett agrees. As interior design director for developer JDS Development Group, she is leading the transformation of several of Walker's commercial buildings into high-end residential properties. "It was a somber space," she says. "You definitely felt like you were in a utility building."

The design team replaced the terra-cotta with chevron-set onyx in varying hues of white and brown, topped by sugar-white marble and antiqued bronze metal trims. Overhead, the embossed cornice and central star-shaped design of the nearly 15-foot-high ceiling were maintained, but painted white as part of the overall brightening of the space.

To give the rotunda-like room a focal point, Wong designed a layered round chandelier inspired by Gaetano Sciolari's atomic fixtures of the 1950s, but much bigger: its upper tier is 8 feet in diameter. "The design came together very quickly," recalls Wong, "and was approved after just a first sketch." That sketch was also enough to get the lighting manufacturer, a company in China with whom Wong had previously worked, started on fabricating it. The 400-pound chandelier, assembled in Guangzhou and shipped in four pieces, required additional anchors to be installed in the ceiling before its restoration.

Finished in mirrored bronze, the fixture contains 68 40-watt half-chrome incandescent bulbs, which produce a soft glow that reflects off the room's rich surfaces and smoky mirrors. Surrounding and supplementing it are eight LED recessed downlights. Four of the same downlights illuminate the small elevator lobby, its two cars cut off from the main Verizon bank and its ceiling lowered for a more intimate scale. Gold-trimmed square sconces accent the entry area.

While catering to those in the market for multimillion-dollar apartments with a touch of history, Stella Tower's transformation from drab to deluxe also puts the spotlight on an architect history had forgotten. ■





LAP OF LUXURY The brightened lobby retains much of the original ornamentation and many of the finishes, including decorative metal grilles and terrazzo flooring, while introducing new touches like onyx walls and a central chandelier (top). An archive photo shows the Art Deco building (above).

credits

DESIGNER: Jarvis Studio

CLIENT: JDS Development Group and Property Markets Group

COMPLETION DATE: October 2014

SOURCES

LIGHTING FIXTURES: USAI (downlights); Boyd (sconces)

STONE: Eurasia

GLASS: Bendheim

WALLCOVERINGS: Innovations

PAINT: Benjamin Moore

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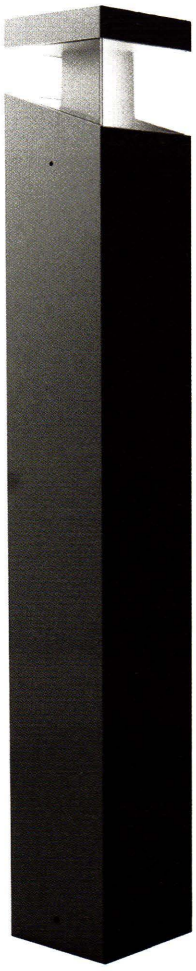
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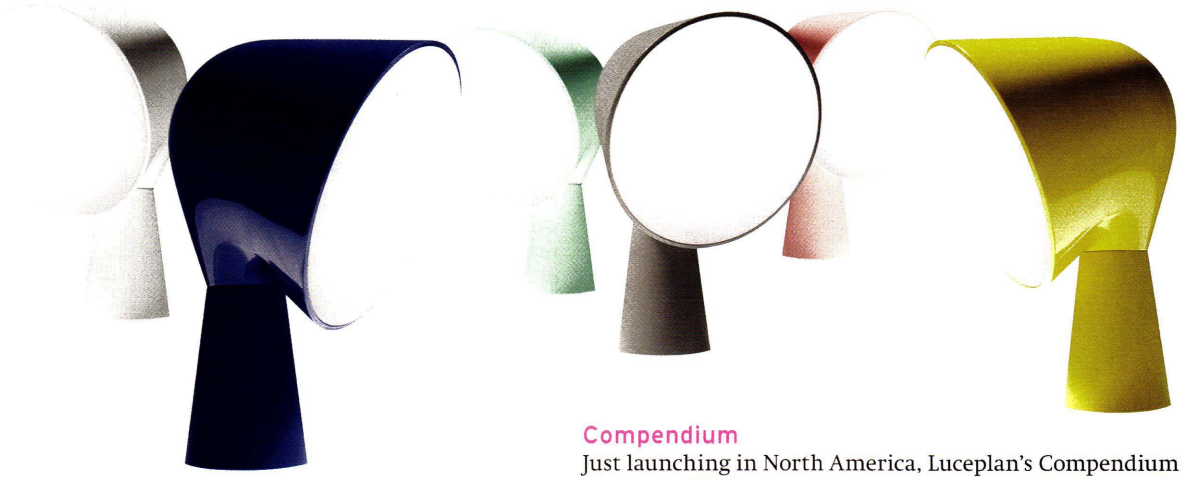


Tetragono

This outdoor LED luminaire from Artemide is available as a post or wall sconce, both of which feature a UV-resistant polycarbonate diffuser slicing through an anthracite-painted, die-cast aluminum body. The floor standing unit measures 5" x 5" x 35½" high; the sconce is 5" x 5" x 6½" deep. artemide.us
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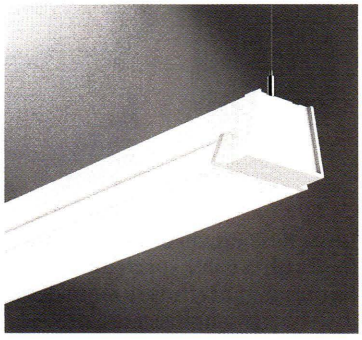
Binic in New Colors

One of Foscarini's popular table lights, the playful Binic is getting a color makeover with six new hues (replacing the original palette): white, blue, mint, gray, pink, and yellow. Each measures 5½" in diameter x 8" high, takes compact fluorescent lamping, and is constructed of ABS plastic with a polycarbonate lens. foscarini.com CIRCLE 213



Compendium

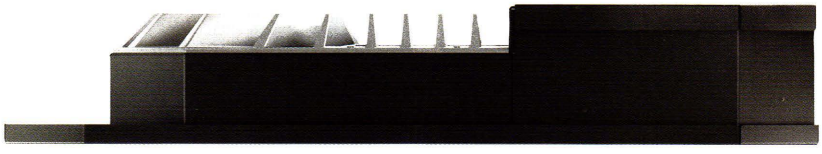
Just launching in North America, Luceplan's Compendium is a sleek LED fixture that is available as a suspension or floor lamp. Its anodized aluminum body comes in a black, brass, or silver finish; for the floor version, it mounts on a die-cast zinc-alloy base. The suspension model measures 64" wide, while the floor lamp stands 72¾" high. luceplan.com CIRCLE 214



Corelite RZL Suspended

Cooper Lighting has added a suspended linear model to its Corelite LED series that provides direct or indirect lighting. The fixture boasts a compact 3½" profile and comes in 4', 8', and 12' modular sections that can be connected to create continuous runs. Five shielding styles are offered. cooperindustries.com
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BeveLED Flat

The trimmed version of this USAI recessed fixture measures a mere 2¾" deep, making it the thinnest LED housing currently available on the market and well suited to ceilings loaded with ductwork and other infrastructure. It accommodates the manufacturer's BeveLED 2.0 downlight with 4½" square or round trim. Both the driver and engine are field replaceable. usailighting.com CIRCLE 215

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Visor

ERCO's elegant Visor is a disc-shaped outdoor wall fixture that produces a wide or deep beam on steps and floors while preventing light from trespassing above the horizontal plane. Powder-coated in graphite, the cast-aluminum unit measures 7⅔" or 7¾" in diameter. A monolithic bollard version, with the disc inset near the top, is also available. erco.com **CIRCLE 217**



Wireflow

Designed by Arik Levy for Vibia, this whimsical pendant utilizes lacquered metal rods and black electrical wires to create a chandelier mimicking a line drawing. A total of 28 preset configurations—including volumetric and linear compositions—are available, but the manufacturer also offers an online tool to modify any of them. Pressed glass diffuses the LED light. vibia.com **CIRCLE 218**



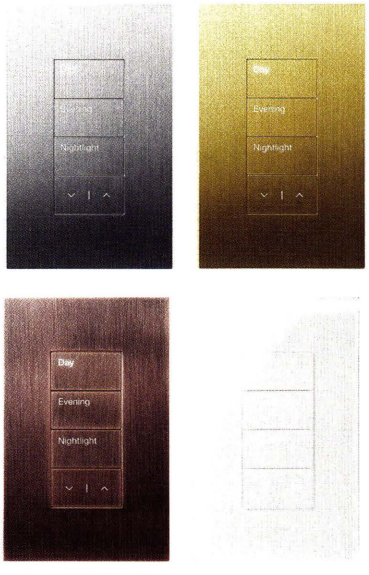
Optical Light Engines

Soraa has launched compact and low-profile light engines for its full visible spectrum GaN-on-GaN LEDs, affording fixture manufacturers more design freedom and flexibility. The new engines measure 1½", 2", or 4" in diameter and emit 500 to 1,000 lumens in four white-color temperatures. Heat sink is optional. soraa.com **CIRCLE 219**



Lady Jane

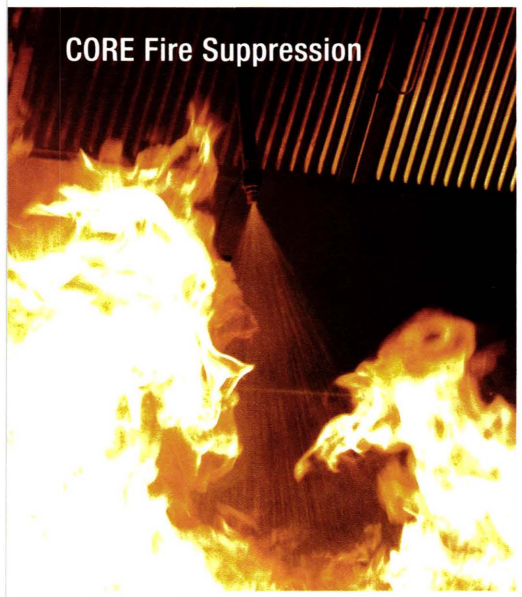
Nimbus's Lady Jane floor lamp features a matte-acrylic LED paddle that uses its own weight to stay in place on a chrome-plated tube yet can easily be raised and lowered by hand, and even detached to function as a portable light source. Its fabric cable comes in neon green, magenta, or dark gray. nimbus-group.com **CIRCLE 221**



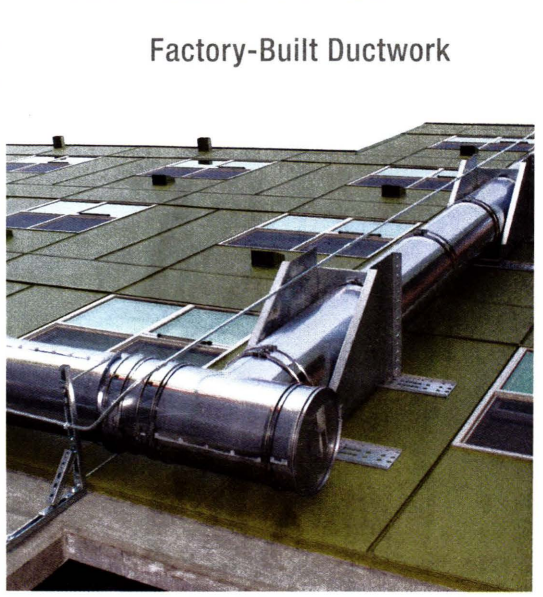
Palladiom QS

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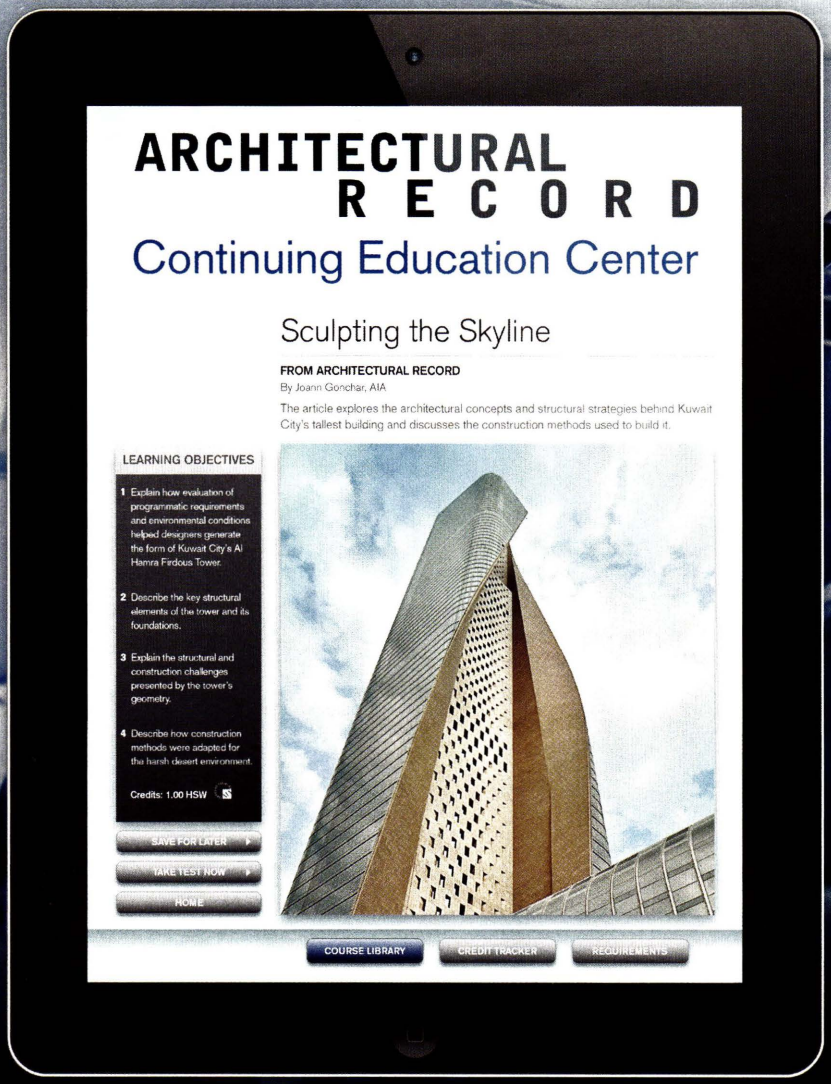


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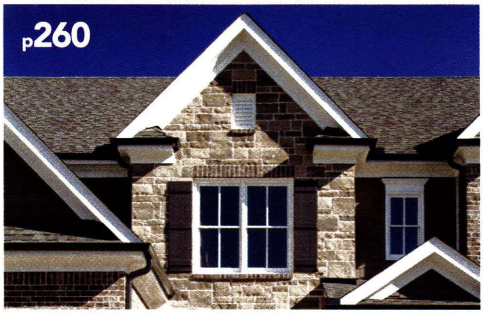


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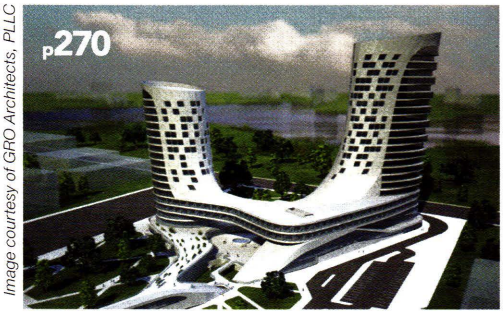


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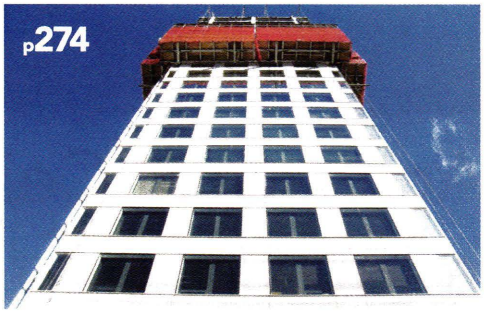


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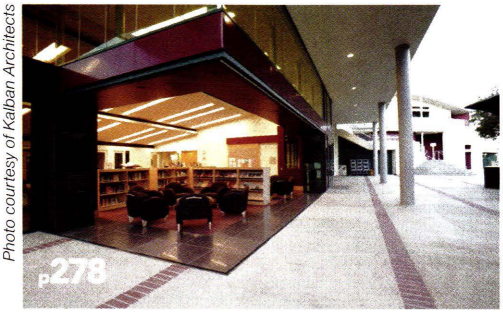


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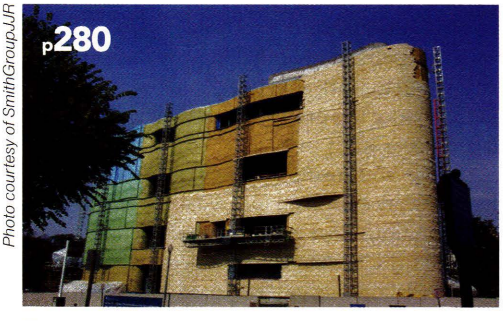


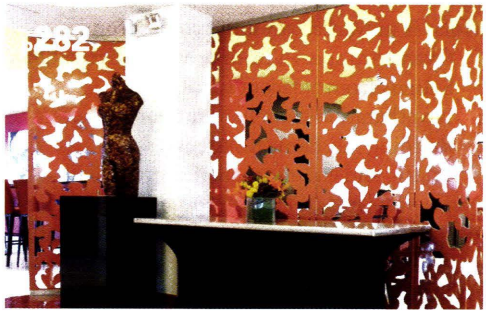
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Understanding how to design for acoustics in flexible interiors takes on new importance as traditional recommendations are not so compatible with current design trends. Architects are challenged with designing spaces that have multiple functions. Now the science behind the ceiling is able to provide both high sound absorption and sound blocking in the same panel.

This article demonstrates the importance of choosing ceilings having both good sound absorption performance as rated by the noise reduction coefficient (NRC), along with good sound blocking performance as rated by the ceiling attenuation class (CAC) for simple ceiling options that can help provide the right acoustical solution for the design.

ACOUSTICS 101

Noise is unwanted sound. It comes from:

- Overheard speech from private conversations
- Sounds from adjacent spaces
- Reverberation from hard indoor surfaces
- Building mechanical systems
- Traffic and environmental sources

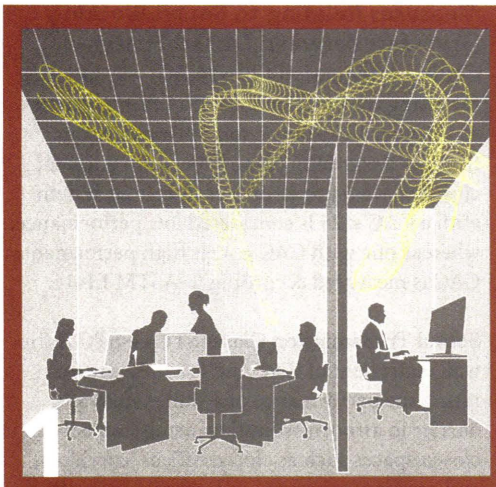
Noise problems can be improved with a choice of enhanced ceiling materials that both absorb and block unwanted sound. In this section, we'll discuss the problems with poor acoustic design and performance, and how that performance is evaluated.

The Gensler 2013 U.S. Workplace Survey[1] examines "What Factors Drive Workplace Performance?" The company commissioned a nationwide survey of 2,035 professionals to examine the design factors that create an effective workplace.

The results showed that U.S. workers are struggling to work effectively and overall work performance has dropped 6 percent since the last Gensler study in 2008.

As the study reaffirmed, effective workplaces have a balance between focused work and collaboration. Since 2008, the time spent in focused work has increased 13 percent, while time spent collaborating has decreased 20 percent. In the end, choice drives performance and innovation. Giving employees a choice of when and where to work increases their performance.

The solution to workplace performance is in providing effective focus space. The study says: "Design factors that influence the





1. Noise is unwanted sound. It originates from a variety of sources, both inside and outside a workspace. Noise and its solutions are not well understood in the building design industry.

2. In today's offices, focus time and collaboration time must often happen within the same open space.

ability to focus most significantly include the functionality of primary space, design look and feel of primary space, and effective noise management."

To be most effective, workers need to both focus and collaborate, two very different activities that often happen in the same space, with unwanted noise playing a big part in the functionality, or lack of functionality, of the space.

In the Danish-American Acoustic Satisfaction Study[2], researchers at Technical University of Denmark and the Center for the Built Environment (CBE) at the University of California Berkeley analyzed acoustic satisfaction of 23,450 survey respondents from 142 buildings on acoustic satisfaction.

The conclusions and implications of the study may be just as alarming to bosses as it is informative to architects and designers:

- Office workers are significantly more dissatisfied with the lack of speech privacy than with the level of noise.
- More than 50 percent of cubicle occupants think poor acoustics interfere with their ability to get their job done.
- Thirty percent of those in private offices say poor acoustics interfere with their ability to work.
- In indoor environmental quality, poor acoustics causes the most dissatisfaction.
- More focus on speech privacy and noise is needed.

The important factor to remember is that buildings are for people. The goal should be to provide a space that is healthy and productive for the occupants, as well as energy efficient and sustainable.

Towards addressing that goal, acoustic comfort means an acoustic environment that provides speech intelligibility for communications and safety, speech privacy for confidentiality, low distractions and annoyance, and good sound quality for recorded and A/V programs.

It's fair to say that current approaches to building design and construction are not meeting the occupants' indoor environmental quality and acoustic needs.

Poor Acoustics Not Adequately Understood

Acoustical design is certainly part of the solution. According to studies by the CBE[3], "noise is probably the most prevalent annoyance source in offices, and that can lead to increased stress for occupants."

The lack of speech privacy, the CBE says, is the most important factor.

However, the CBE states, "Acoustics in most cases do not receive the level of design attention as thermal, ventilation and other architectural and engineering considerations. The causes and consequences of poor acoustical performance are perhaps not adequately understood by designers and building owners."

In the past, ceilings typically offered either good sound absorption (noise reduction coefficient, NRC) performance to control reverberation and decrease unwanted sound levels, or good ceiling attenuation (CAC) to blocking unwanted sound intrusion into spaces. Now, there are ceilings with combined high NRC and high CAC performance for an ideal combination of acoustical control in one panel.

Because workers spend more time focusing and less time collaborating than in the past, acoustic design becomes even more important to solve noise and speech privacy problems.

It helps to understand a few principles and the terminology used in the acoustic design.

Measures Relating to Sound Within a Space

Noise Reduction Coefficient (NRC) — A measure for rating the overall sound absorption performance of a material when used in an enclosed architectural space such as an office, where sound is being reflected at many angles of incidence.

Specifically, it is the 4 frequency averaged absorption coefficients @ 250, 500, 1000 and 2000 Hz, rounded to the nearest 0.05. A material with NRC < 0.50 (which means it absorbs less than 50 percent of the sound energy that strikes it) is a poor absorber, and NRC > 0.70 (which means it absorbs more than 70 percent of the sound energy that strikes it) is a very good absorber.

Reverberation—The buildup of sound within an architectural space, such as a room, as a result of repeated sound reflections at the surfaces of the room. Exposed structure—those spaces having no ceiling but with exposed building service—will often have noise problems. Sound reflecting off the deck above creates excessive reverberation such that large spaces require sound absorption to reduce distracting noise. There are acoustical treatments available to address these types of spaces.

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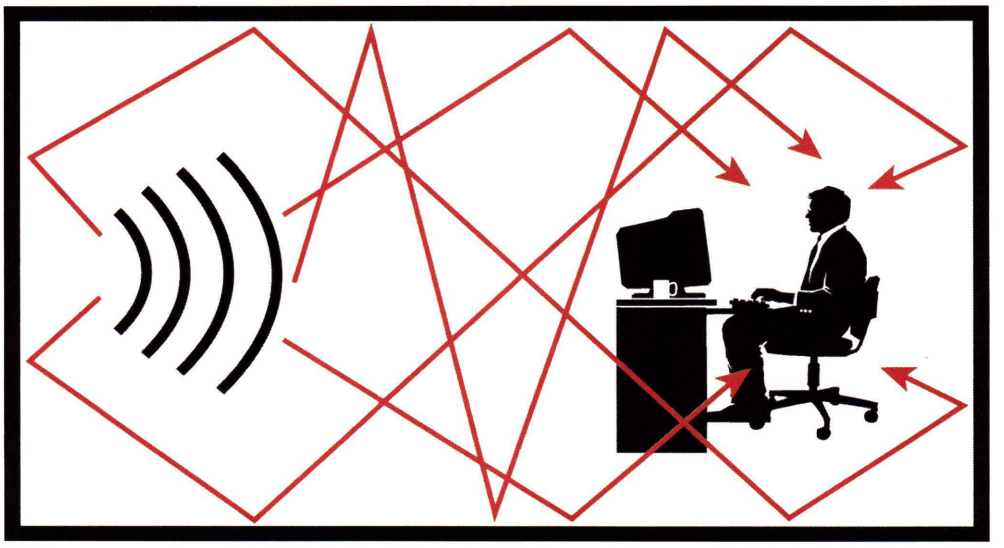
Learning Objectives

After reading this article, you should be able to:

1. Describe the importance of acoustical design and the ways total acoustic quality is defined and measured.
2. List solutions for both sound blocking and sound absorption in office and commercial spaces.
3. Define a healthcare environment's needs and solutions for total acoustic quality.
4. Identify school and classroom needs and solutions for superior acoustics.
5. Review mineral fiber, fiberglass, wood, and metal ceiling options for both aesthetics and acoustic performance.

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Repeated sound reflections off the room surfaces cause a buildup of sound referred to as reverberant sound. In exposed structures, the MEPs can cause noise problems.

Reverberation Time (RT)—A measure for rating the quality of the sound environment within an architectural space, and its appropriateness for various uses. Specifically, the reverberation time is the time it takes for reflected sound within a space to decrease by 60 dB after the sound was made. Typically, an RT < 1 second is good for speech intelligibility, while an RT > 2.5 seconds is good for symphony music.

Measure Relating to Sound Attenuation (Transfer) Between Open Plan Spaces

Articulation Class (AC)—A measure for rating the speech privacy performance of a ceiling in an open plan environment where sound is reflected off the ceiling between two adjacent spaces divided by partial-height furniture panels. A ceiling system with AC ≤ 150 is low performance, while one with AC ≥ 180 is high performance.

Measures Relating to Sound Blocking (Transfer) Between Closed Spaces

Ceiling Attenuation Class (CAC)—A measure for rating the performance of a ceiling system as a barrier to airborne sound transmission through a common plenum between adjacent closed spaces such as offices. A ceiling system with a CAC ≤ 25 is considered low performance, whereas one with CAC ≥ 35 is high performance. CAC is measured according to ASTM E1414.

Sound Transmission Class (STC)—STC is the wall equivalent of CAC and is a measure for rating the performance of a wall system as a barrier to airborne sound transmission between closed spaces such as closed offices, corridors, and conference rooms, and even in open offices with furniture and dividers, etc. An STC ≤ 35 is considered low performance, while an STC ≥ 55 is considered high performance. STC is measured according to ASTM E90.

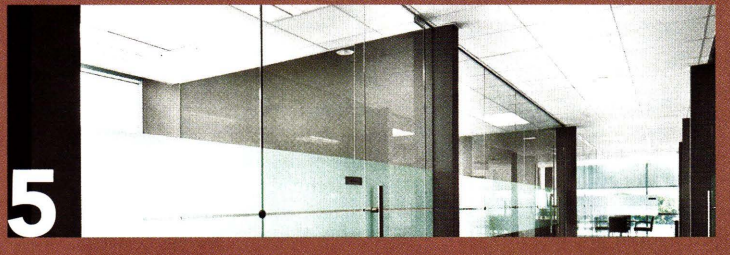
Articulation Index (AI)—The AI is a measure of the intelligibility of speech in the presence of background noise, and is related to the signal-to-noise ratio, S/N. The AI ranges from 1.0 which means that the speech is highly intelligible, to 0.0 meaning that speech cannot be understood. Speech Privacy (PI) is calculated from the AI to indicate the level of speech privacy according to the following: PI = (1-AI) * 100%, and is generally rated as PI > 95% is



3. Focus Areas—In open plan offices the focus areas are intended for knowledge workers who need to concentrate on individual work. Within these open plan spaces the noise will be limited administratively using both technical and behavioral directives since noise and low distractions are key. Between spaces, it's important to minimize noise intrusions in all directions, and both architectural and technology enhancements, and behavioral directives will be necessary. In these spaces, a combination of high to mid AC and NRC, and CAC rated ceilings, moderate-to-high furniture panels, and electronic sound masking are design elements to consider.



4. Collaboration Areas—In open plan offices, the collaboration areas are intended for project teams that require active participation. Within a team, interactions and teaming activities require open communications, and speech intelligibility is key. Between teams, there is a need for moderate acoustic separation between different groups, and significant acoustic separation from focus areas and privacy areas. Diminishing noise is key to minimize distractions. In these spaces ceiling clouds with a combination of mid NRC and mid-high CAC are recommended.



5. Privacy Areas—Office privacy areas are important to knowledge workers, management, legal, financial, human resources, etc., so that they can concentrate on individual work needs and have confidential discussions. These are most likely closed plan spaces, and within a space both noise, and especially privacy, are key. Between spaces, it's important to minimize sound transfer in all directions. Design factors include robust choices of architectural elements including high CAC and moderate NRC ceilings, high STC walls, and consideration of electronic sound masking.

CASE STUDY

PROJECT REVIEW: OPEN OFFICE



- Project: Beverage Company
- Location: Purchase, NY
- Architect: RF Granoff Architects
- Challenge: Contemporary open office space with low dividers between workstations. There was a need to create a productive work environment by eliminating unwanted noise from office equipment and other coworkers.
- Solution: Acoustical control in a mineral fiber ceiling with a smooth, drywall-like visual.
- Impact: Sound absorption (NRC 0.85) and sound blocking (CAC 32) in one acoustical panel.

CASE STUDY

PROJECT REVIEW: OPEN OFFICE WITH ADJOINING PRIVATE OFFICES



- Project: Chandler City Hall
- Location: Chandler, AZ
- Architect: SmithGroupJJR, Phoenix, AZ
- Challenge: Open office space with adjoining private offices divided by glass walls not to deck.
- Solution: A high NRC and high CAC product to reduce noise and block sound from traveling from open space to privacy spaces.
- Impact: Sound absorption (NRC 0.80) and sound blocking (CAC 35).

confidential, and PI = 80 to 95% is non-intrusive.

These measurements will inform architects as they contemplate and calculate the acoustic qualities needed for various environments. We'll begin with offices.

ACOUSTIC SOLUTIONS IN OFFICES

Traditional workplaces can be generally described as a combination of open plan and closed plan design. Open plan designs include cubicles and open spaces for professional, clerical and administrative offices. Closed plan designs, which provide for maximum confidential privacy, include management offices, human resources office, legal offices, conference rooms, doctor's offices and medical treatment rooms.

To achieve total acoustic performance, the ideal combination of sound blocking and sound absorption, an acoustical ceiling product should perform at a high level of both CAC and NRC. Ceiling panels with high CAC and NRC ratings help block and absorb unwanted sound in open office spaces, and even more importantly in closed offices where privacy is key.

More recent architectural design trends lead away from traditional design, and we consider the open office as being comprised of both focus areas and collaboration areas instead. In this new design approach we consider function to drive form, and we'll discuss three specific work areas: focus areas, collaboration areas and privacy areas.

Total Acoustic Quality in a Healthcare Environment

Privacy, measured by the Privacy Index, is important in a healthcare setting. When information of a sensitive nature is verbalized, a patient within a closed room should feel certain that the information will not transmit beyond that space. New federal rules give guidelines on how to create speech privacy to ensure that patient's health privacy is preserved.

HIPAA is the Health Insurance Portability and Accountability Act of 1996, which protects the privacy of individually identifiable health information. The point is that each person is entitled to the privacy of his or her medical history, and this law is enforced by the Office for Civil Rights, within the U.S. Dept. of Health and Human Services.

According to the National Institutes of Health[4], department managers can use cost-effective and simple strategies to comply with HIPAA oral privacy requirements:

- Consider using cubicles or screens to block sound.
- Install masking sound systems, sound-absorbent curtains.
- Install ceiling tile with high noise-reduction rating (NRC).

The addition of a ceiling with high sound blocking performance (CAC) will further assist in keeping patient information confidential.

Building design and specification both have significant impacts on speech privacy and construction costs, and the project architect can impact the methods and materials.

Besides offices and healthcare environments, there is a third category of interior spaces that needs special acoustic consideration: classrooms. That will be our next area of exploration.

TOTAL ACOUSTIC QUALITY FOR CLASSROOMS

Teachers and students do their best in an environment that is conducive to learning. A poor acoustical environment will often increase stress and decrease concentration, especially in these cases:

- Students with hearing impairments or learning disorders.
- Very young children—These students require good acoustic conditions because much of the material and vocabulary is new to them. Because these students have limited vocabularies, they are less able to fill in missing words and phrases not heard clearly.
- English as a Second Language Students — The number of non-English-speaking students is growing in the American school system. These students are at more of a risk than native speakers in a noisy classroom because they are often learning the language as well as the curriculum.
- Students with Temporary Hearing Impairment—Illness often causes hearing loss in children. Research shows that middle-ear infection is the most frequently occurring medical condition in young children, with incidences as high as 25 percent among kindergarten and first grade students.
- Teachers at Risk of Burnout—When teachers must constantly raise their voices to overcome noise, vocal chords become fatigued. Teachers become stressed and frustrated trying to talk "over" the noise.

See endnotes in the online version of this article.

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CIRCLE 143

Advances in Manufactured Masonry Thin Veneers

New products look, adhere, and weather better

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Manufactured masonry veneers have evolved, with today's versions offering a host of visual styles for interior and exterior applications.

Photo courtesy of Oldcastle® Architectural and Artisan Masonry Stone Veneers®

Manufactured masonry thin veneer has hit its stride. Popularity in the product has grown dramatically over the past decade and recent years have seen further innovation that seeks to refine its visual appeal and other benefits. While full-depth veneer options have expanded, the market has also seen an increase in lightweight or thin veneers used both in commercial and residential construction, with today's products engineered to look better, adhere better, and weather better than their traditional counterparts. This article will explore manufactured masonry thin veneers with respect to their aesthetic appeal, durability, and economical advantages. Also discussed will be options in installation systems that have been designed to facilitate energy efficiency and moisture control.

MANUFACTURED MASONRY THIN VENEER—WHAT IS IT?

Thin veneers are any lightweight, flat-backed, thin surface product that is applied directly to a solid facing. Thin veneers average in thickness from 1 to 2 inches and per International Code Council regulations must weigh 15 pounds or less per square foot.

Manufactured masonry thin veneer is typically fabricated by pouring a lightweight concrete mix into rubber forms. The trend started with emulating the look of natural stone but has gone beyond that—thin veneers can be manufactured in a wide range of looks and options. Glazing the face can change the appearance of the veneer unit to resemble other materials such as tile, for example, and pictorial elements can even be added for visual effect.

In the recent past, advances in the molds themselves as well as in finishing techniques,

Photo courtesy of Oldcastle® Architectural



Manufactured masonry veneer in thin and full-profile styles creates distinctive outdoor spaces.

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Learning Objectives

After reading this article, you should be able to:

1. Discuss the characteristics of manufactured stone veneer in terms of green building goals.
2. Compare natural stone veneer, full-profile stone, and manufactured stone veneer in terms of aesthetics, cost, environmental soundness, and durability.
3. Describe the recent advances in manufactured stone veneer and how the product has advanced in terms of aesthetics, adherence, energy efficiency, and moisture control.
4. Explain the various types of installation systems and how they reflect advances in design to achieve consistency with the building code and sustainability goals.

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mortar, and substrates have enabled manufactured masonry thin veneers to offer not only more visual effects and the ability to match an increased number of colors, shapes, and textures, but greater economic and environmental advantages as well as ease of maintenance. Today's products are machine made with quality aggregates and admixtures to make them very dense and water repellent to facilitate moisture control so that they can be used at grade and to withstand over 60 mph wind-driven rain. Additionally, veneers may be manufactured to be mold and mildew resistant. Many thin veneer products are either naturally colored or have integrated pigment for color fastness. After they are produced, some thin veneers are cut to the desired thickness and shaped to the customer's specifications. With a new understanding of the thin veneer products, manufacturers have made some adjustments to their sawing equipment to be able to cut these thin veneer products more precisely. But not all thin veneers are produced by being cut, some are manufactured at the desired depth and are ready to install without cutting. Advances in packaging materials assure safe shipment of these products nationwide while maintaining product integrity and quality.

Because it is made with concrete, manufactured masonry thin veneer provides a number of benefits. By its very nature, thin veneer is light in weight, making it generally more economical than full-depth veneer. Thin veneer also tends to install faster, saving money and the all-important resource of time. Further, thin veneers may be used for non-load bearing applications and do not require a footing, further eliminating costs because of the reduction of structural reinforcements required. They offer flexibility in customizing sills, arches, coping units, and larger-size units, and can be easily cut and shaped in the field. While most commercial applications have used a thin veneer stone from time to time, they have been increasingly utilized over the past few years due to several reasons, including the need for a lighter veneer due to an application or particular location on the building, and installations on projects with other thin veneer systems such as metal panels or glass curtain walls.

Manufactured vs. Natural Stone

Many applications call for the look of stone and, in use since the 1950s, manufactured stone is a frequent lightweight alternative to natural stone. Particularly with wood frame walls, building codes may stipulate that when natural stone cladding is used, more wall support, footings, and expansion joints may be required. Over the years, manufacturers have solved a number of problems present in early versions of manufactured stone, particularly its sometimes unauthentic look and texture, and manufacturing innovation in finishes and installation methods has generated an uptick in face and size options. With the actual material costs of manufactured stone and natural stone veneers running neck and neck[1], due to its lighter weight—roughly one third the weight of natural stone—manufactured stone is a less expensive alternative in terms of fabrication, shipping, lifting, and installation, and a more economical and environmentally sound option in areas without natural quarries. Manufactured stone may also have an edge over natural stone in color options—while natural stone is confined to the palette that Mother Nature has

presented, manufactured stone products are available in almost limitless colors and textures.

Market Conditions

Manufactured masonry thin veneer usage is on the rise, with the North American market for general masonry veneer in residential and commercial applications reaching more than 160 million square feet valued at nearly $700 million in 2010, according to a study by business consulting firm Principia Partners entitled Masonry Veneer 2010[2]. The firm maintains that the residential market for masonry veneer will be the primary driver of new growth between 2010 and 2012, contributing over $150 million in new demand.

According to the study, masonry veneer including manufactured stone, thin veneer stone, thin brick, and masonry panels, simulates stone or brick appearance at an installed cost of 50 to 60 percent that of full-dimensional masonry—a figure made even higher with the shortage of skilled masons to install full-dimensional masonry.

Ken Jacobson, partner at Principia Partners, says, "Property owners are increasingly using masonry veneer products because they are significantly more affordable than natural stone and full-dimensional brick." Jacobson continues, "According to our extensive research, property owners continue to seek products that are aesthetically pleasing, offer a wide range of design options in color, form, and texture, and can be easily installed. Masonry veneer products install easier than full-dimension masonry. More product can be moved and installed per man hour. Due to masonry veneer's lower volume and weight, more product can be shipped per truckload than traditional masonry, and with no load-bearing foundations required, thin masonry veneers are easier and less expensive to install than their full-dimension equivalents."

MUSEUM AT PRAIRIEFIRE

The Museum at Prairiefire, established in 2010 based on a pioneering content partnership with the American Museum of Natural History, is the cultural anchor of Prairiefire, a 58-acre mixed-use project that integrates residential, office, retail, and entertainment. When designing the museum exterior, museum architect and planner VernerJohnson wanted an exterior as unique as the museum's contents. Accordingly, the museum is the only building in the United States to feature dichroic glass developed by NASA; its exterior also features a 4-inch full-depth veneer, with the front balcony faced with a 1-inch thin veneer adhered application, and its underside a track installation system with a thin veneer. While the main building required a traditional cavity construction for water management and insulation value, the balcony needed a lightweight veneer due to its cantilevering out from the building. The architect wanted to use the 1-inch thin adhered veneer under the balcony but after looking at the project, an aluminum tracking system was recommended for ease of installation due to the difficult angle and to create the overall desired aesthetic.

"I specified the masonry thin veneer on the exterior and interior vertical faces of the balcony because weight was a major concern. Since I wanted the entire balcony to be wrapped in stone, I knew I would need to come up with light and reasonably economical systems to make it buildable and within budget," says Jonathan Kharfen, AIA, LEED, senior associate at VernerJohnson. "The thin veneer was a time-honored system that cut the weight down of the stone by about two-thirds. The project mason did a mockup of it for his own benefit as well as for me, and we both were extremely pleased with the ease of installation and the final result, both in terms of durability and aesthetics. At a distance, the balcony came out just as I imagined, like an impressive solid block of carved stone."



The forward-looking Prairiefire Museum incorporates full-depth stone veneer and a front balcony faced with a 1-inch thin veneer.

Photo courtesy of Acme Brick Company

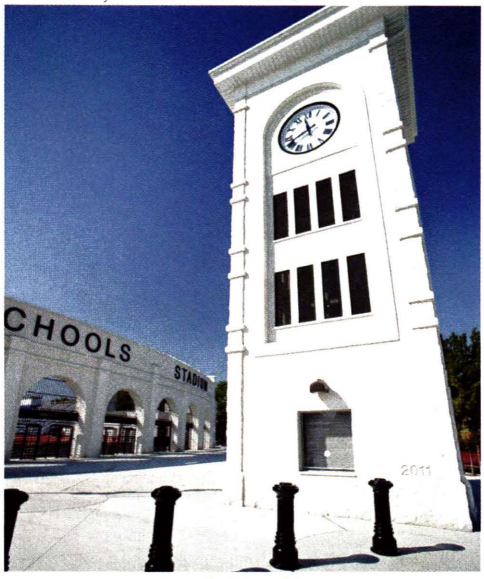
Applications

Thin veneers have wide applicability in settings from residential single-family homes to multi-story commercial buildings, and are used extensively not only in façades and foundation facings but in many interior settings as well, creating striking effects. Archways, entrance pillars, courtyards as well as accent walls, alcoves, stairwells, chimneys, mantels, and fire pits are all popular candidates for thin veneer installations. Further, thin veneer can be an effective solution in both new construction and renovations, and can be fabricated to replicate a natural or specified material.

Interior. Considered a premium aesthetic as both a full application or as an accent, manufactured thin veneer is widely used in interior settings, as the 1-inch depth of a typical unit leaves more space than the full 4-inch profile. Accenting one part of a wall in a living or dining room can add visual interest and high drama at a relatively low cost. In the kitchen, stone veneer backsplashes, islands, walls, and entry arches can enhance the appearance of the room, adding a rustic feel, or emphasizing a natural aesthetic. Thin veneer is appropriate for fireplace upgrades, changing or reinforcing the design sensibility of the space—a rugged surface around the fireplace, for example, may add warmth and texture to a modern room. Door and window surrounds as well as transitional walls or arches are also prime spots for manufactured thin veneer stone treatments and can bring the dramatic richness and warmth of natural stone without the drawbacks. Options in manufactured veneers range from rough edged to natural cut, irregularly shaped field stone and the rounded smoothness of river rock.

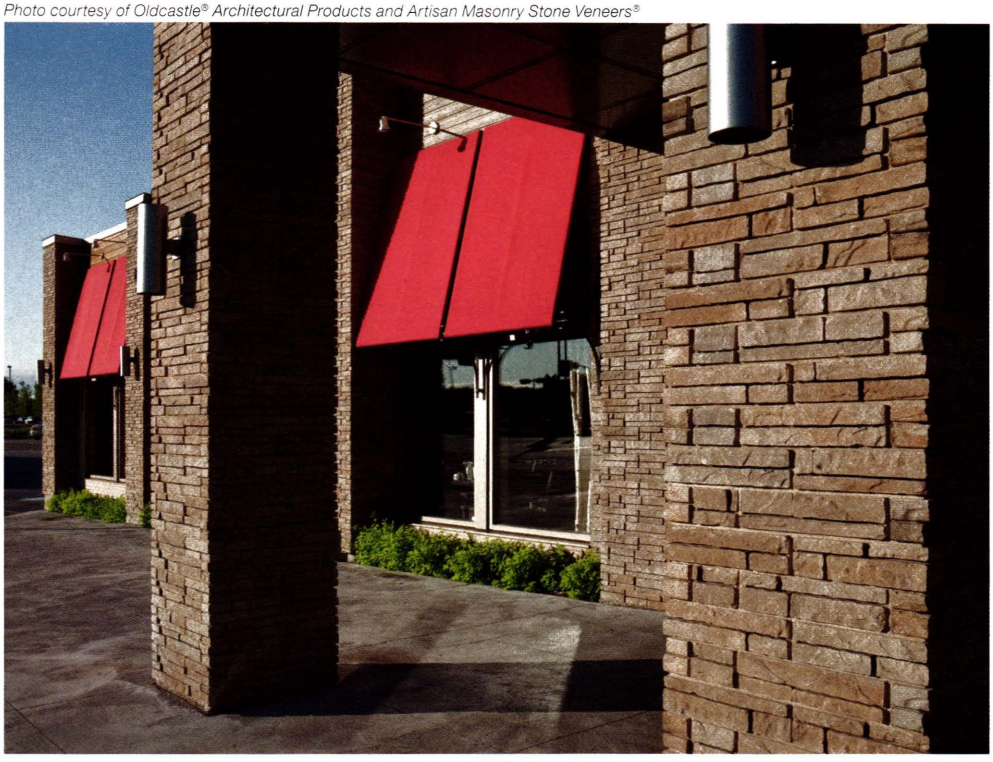
Exterior. Manufactured thin veneer can be used to striking effect in both complete coverage or as an accent to the exterior of a structure, with a combination of different surfaces and textures adding interest and depth. Appropriately colored and textured

Photo courtesy of Oldcastle® Architectural



A popular option in full-profile veneer is a monument white exterior look, achieved by a mixture of white Portland cement combined with fine aggregates.

Photo courtesy of Oldcastle® Architectural Products and Artisan Masonry Stone Veneers®



Varying types of joints and ratios of larger to smaller stone create façades with depth and intricacy.

units can help the structure blend in to its natural surroundings, be they marked by stone outcroppings or deep woods or other types of landscape. Simple or multidimensional designs for outdoor living can also be created with a combination of thin veneer products. Popular trends include built-in seating, definition of an outdoor room with seat walls, and customization of water or fire features and an outdoor kitchen. Architects can also use thin veneer walls to pleasing and practical effect in outdoor living settings to define spaces, wrap columns, control erosion, build seat walls and raised gardens, and create multidimensional poolscapes and patios.

The diversity of face alternatives of manufactured full-dimension stone veneer, including color, texture, and size options, can also offer architects a versatile palette. Exterior veneer, for example, can have the look and feel of natural limestone or cast stone, creating the unique appearance of old stone with a slightly embossed, antique finish to achieve an air of softness and warmth. In some instances, a choice of two types of joints is available in order to create two very different looks within the façade, and many product lines include various proportions of large stones and accessories to create interesting architectural details that require few or no cuts. Angular and surround stones offer a variety of design possibilities, as do thin veneer units with rounded contours, and modular shapes.

Another popular option is a monument white exterior look, achieved by a mixture of white Portland cement combined with fine aggregates that can result in a highly dense product with clean lines, or a bold chiseled finish. For those who prefer a stacked stone look, manufacturers offer multi-length units that can be used on the entire façade or as accents on architectural elements such as wall sections or skirting. A product that has a single height but differing lengths makes for a stacked stone appearance with an easy installation process. Innovative manufacturing processes even enable units that possess the look of natural slate, or large stonework highly sought after in urban settings.

The manufacturing process is engineered to create in random fashion, a number of distinct textures with marked edges. Using color ranges and blends, as well as varying types of joints—concave, half recessed, recessed, and flush—and various ratios of large to smaller stones make for a façade or interior application with depth and intricacy.

SPECIFICATION CONSIDERATIONS

When choosing a manufactured masonry thin veneer, several factors should be considered.

Depending on manufacturing process, many concrete masonry thin veneers integrate the color throughout the unit. As opposed to surface finishes, aggregate coloring creates a product that is more visually appealing and durable. Units that were surface colored, as was the case almost universally in earlier times, were subject to chips and scratches, often rendering them unusable. Specifiers should also look for products with an increased freeze thaw resistance and a low water absorption rate. Naturally, a product that is designed to fit the adherence system will quicken time and lessen the difficulty of the installation process, making for a more pleasing aesthetic effect; equally important is selecting a product that is dimensionally tolerant and does not have unwanted flanges on the back of the stone. Other desirable attributes of manufactured thin veneers are resistance to salt damage and ease of cleaning, with those that can be easily wiped without the color rubbing off being the preferable choice. In addition, some products are manufactured with an integral water repellent limiting moisture penetration and increasing the service life of the structure.

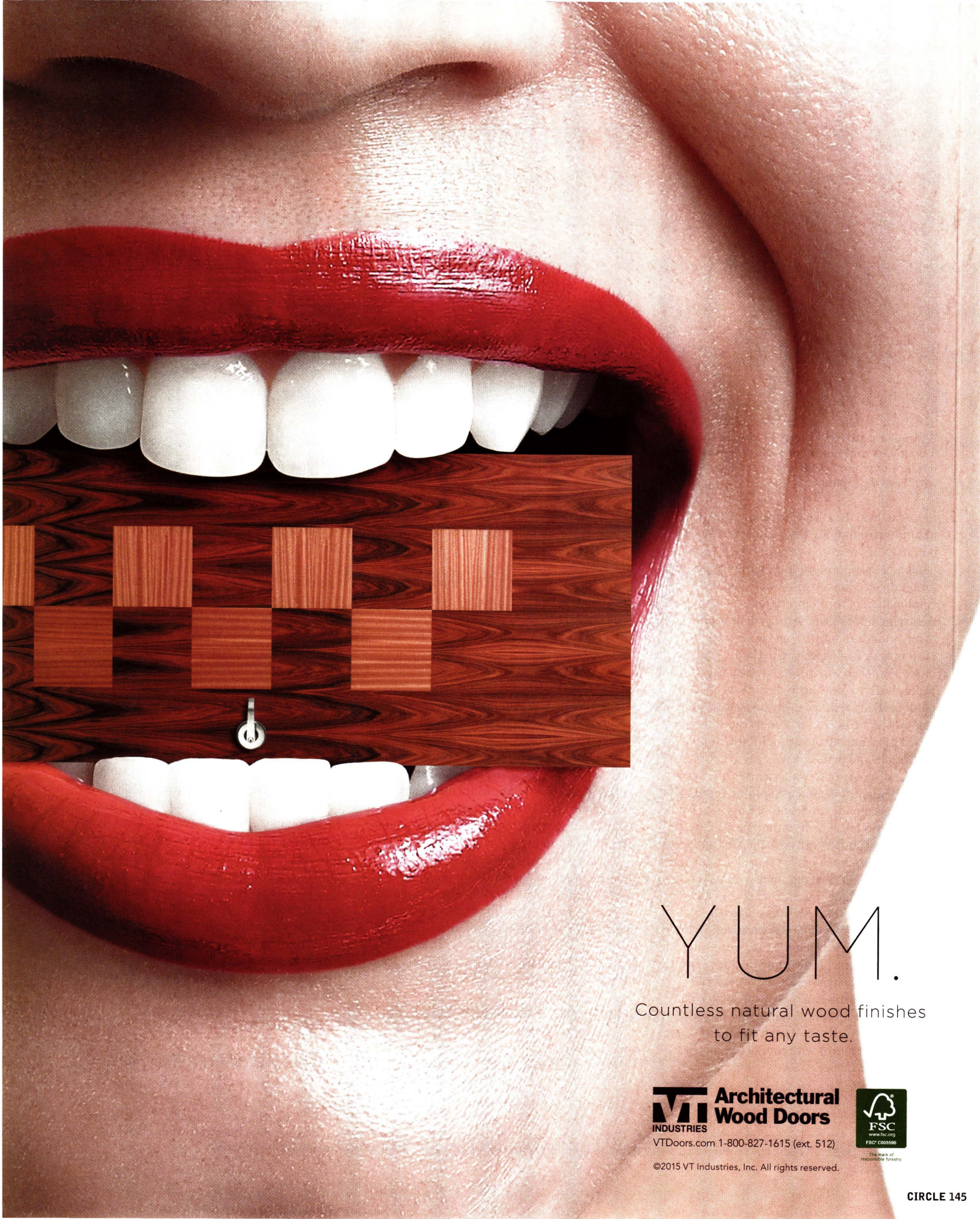
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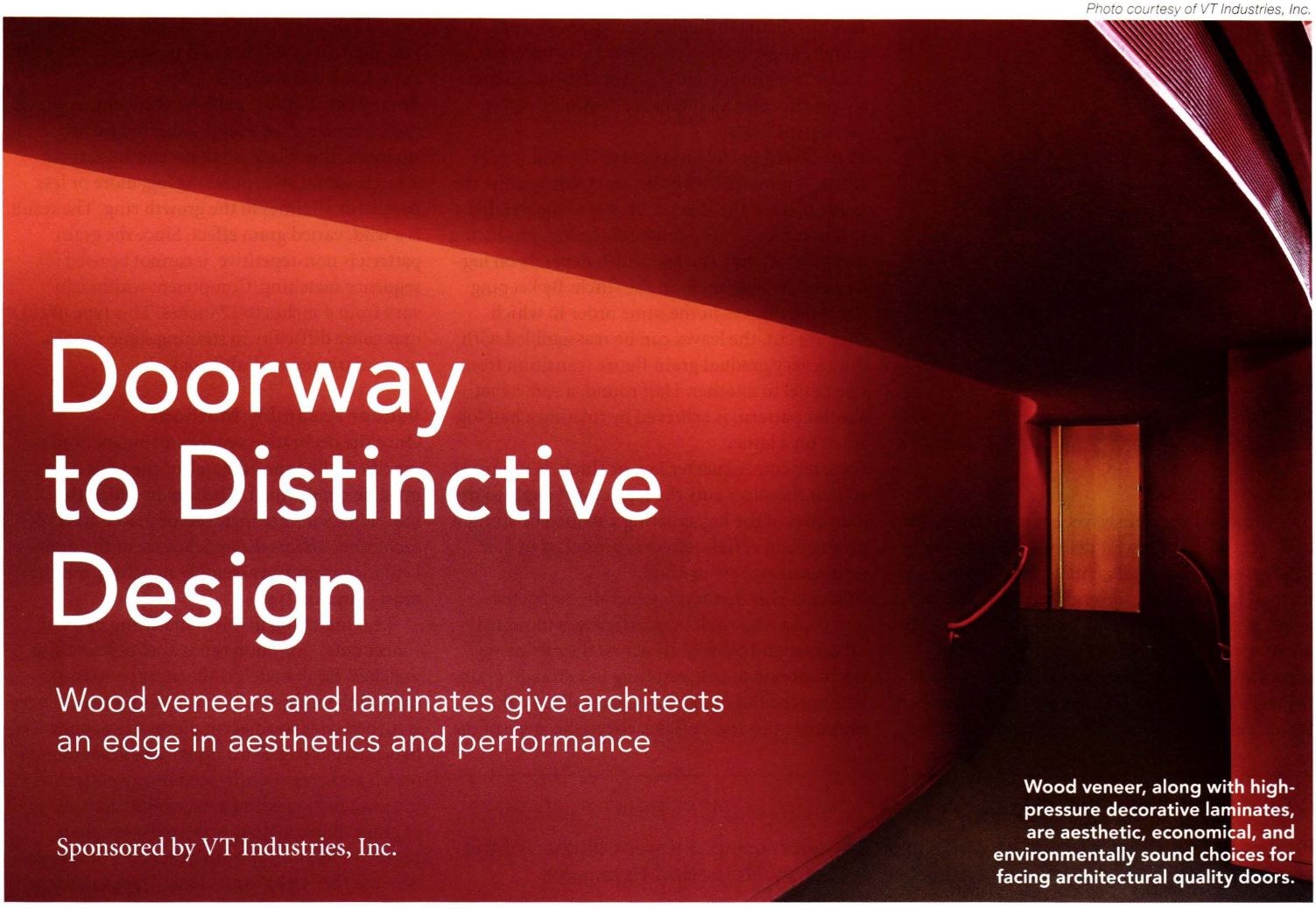
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Doorway to Distinctive Design

Wood veneers and laminates give architects an edge in aesthetics and performance

Sponsored by VT Industries, Inc.

Wood veneer, along with high-pressure decorative laminates, are aesthetic, economical, and environmentally sound choices for facing architectural quality doors.

Throughout history, the door has been a compelling design element…the arch top doors of the Romans…medieval doors wrought in bronze…the elaborately carved doors of the Renaissance, the plain doors of the Shakers—all different, all distinctive. No matter what their time period, designers throughout the centuries would no doubt recognize the door as an opportunity to make an aesthetic statement. This is no less true today, as architects choose from an unprecedented array of styles to specify a door consistent with their vision, quality goals, and performance requirements.

In terms of materials, the natural warmth and beauty of wood veneer remains a classic choice for interior doors, complete with the unique physical characteristics that give it depth and interest. Also widely used today are high-pressure decorative laminate (HPDL) doors, which are available in a full range of colors, patterns, wood grains, and custom solutions. This article will discuss the characteristics and design considerations pertaining to wood veneers and HPDL as appropriate for interior applications and available for architectural door product specification.

WOOD VENEER: WHAT IS IT?

Veneer is a thin sheet of wood that is rotary cut, sliced, or sawn from a log. The slice can be ultra thin—industry standard is 1/42 inch, and the minimum is 1/50 inch after sanding. Face veneer, the outermost exposed wood veneer surface of a veneered wood door, is generally made from the most beautiful wood and affixed to an engineered wood substrate. Veneers are a time-honored art form, dating back to Egyptian times and used extensively throughout history.

By its very nature, using veneer is a sustainable practice. The best logs are typically reserved for veneers because the resource can be extended and a single log can be sliced into veneer for multiple projects. Defects in the wood are eliminated during the manufacturing process. Wood veneers are available in multiple grades, matches, and assemblies to meet design requirements, with natural variations of the veneer and different cuts creating unique textures, grains, figure, and color for each veneer piece. Consult the sidebar on the following page for basic definitions of terms and processes related to the manufacture of wood veneer.

CONTINUING EDUCATION

EARN ONE AIA/CES HSW LEARNING UNIT (LU)

Learning Objectives

After reading this article, you should be able to:

1. Identify common wood door species and wood veneer cuts, matching, and patterns that provide a basic understanding of wood veneer for architectural doors.
2. Properly specify complete veneer requirements.
3. Discuss high-pressure decorative laminates from an aesthetic and performance viewpoint, identifying design considerations for a choice that is cost effective and contributes to a healthy, durable, and pleasing interior environment.
4. Describe how wood veneer and laminates contribute to sustainability and are consistent with green building goals.

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GLOSSARY OF WOOD VENEER TERMS

To understand the complexities of wood veneer and the way its assembly dramatically affects architectural doors, start with a few basic definitions.

LEAF MATCHING. The way individual veneer leaves are placed next to each other during fabrication of the face veneer (book, slip, or random).

ASSEMBLY MATCH. The way matched veneer leaves are assembled on the door face (running, balanced, or center balanced).

VENEER SLICING

As mentioned previously, veneer is cut from the best trees with the fewest defects. The process involves several steps. Essentially, the cutting method for each log is determined first. The logs are then soaked and drained, and afterwards they are ready to be cut. After cutting, the slices of veneer are dried and bundled. The way in which the log is cut dictates the grain and appearance of the veneer. More specifically, the cutting method involves slicing through a tree's growth rings, and the angle at which the wood is cut produces a distinctive grain. Plain sliced or flat cut, quarter sliced, rift cut, and rotary are common veneer cutting methods.

Plain sliced or flat cut veneer. The half log, or flitch, is mounted with the heart side against the guide plate of the slicer. Cuts are made parallel to a line through the center of the log, producing a distinct figure. The leaf width depends on log size and its placement in the flitch. By keeping the veneer leaves in the same order in which they are cut, the leaves can be reassembled with only a very gradual grain figure transition from one panel to another. Half round, a somewhat similar pattern, is achieved by turning a half log flitch on a lathe.

Quarter cut. A quarter log, or flitch, is mounted so that the slicer cuts the log at a 45° angle to the axis lines of the log, creating a striped or straight grain effect. A flake effect is produced in oak veneers using this method.

Rift cut. This method is generally restricted to red and white oak. A quarter log is mounted off center and cut slightly across the medullary rays common to oak, resulting in a straight grain without the flake effect of quarter sliced oak. To minimize this ray, or flake, effect, the angle of the cut is 15 degrees to the radial. The characteristic very tight and straight grain produced by the rift cut is known as the comb grain.

Rotary cut. This is a method of cutting in which the log is placed on a large lathe and turned against a fixed blade, so that a continuous cut is made round and round the log, more or less parallel at all times to the growth ring. The result is a wild, varied grain effect. Since the grain pattern is non-repetitive, it cannot be used for sequence matching. Component widths can vary from 4 inches to 12 inches. This type of cut may cause difficulty in staining some species, particularly red and white oak.

Veneer Assembly Methods

Once the decorative veneer cutting method is specified, the type of match at the joint line must be determined. The way in which the individual cuts are matched or placed next to each other affects the appearance of the doors. Leaf matching and assembly matching are the most common types.

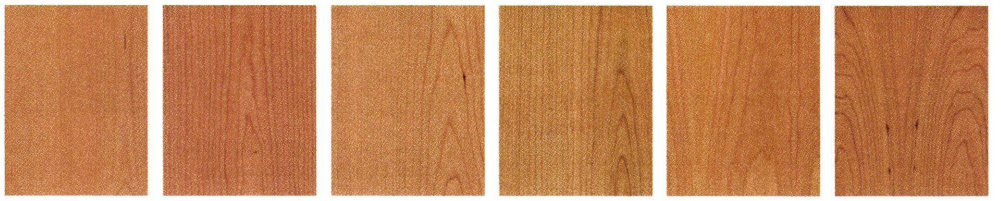
Leaf matching involves matching pairs of veneer cuts. Common types are book and slip matches. Book match is the most commonly used in the industry. Every other piece of veneer is turned over so adjacent pieces are opened like two adjacent pages in a book. The veneer joints match and create a mirrored image pattern at the joint line, yielding a maximum continuity of grain. Book matching is used with plain sliced, and less often with other cuts of veneer. Because the "tight" and "loose" faces alternate in adjacent pieces of veneer, they may accept stain or reflect light differently, resulting in a noticeable color variation, often called "barber pole." These variations are not considered a manufacturing defect.

Slip matching refers to the adjoining of veneer components in sequence without turning over every other piece. The grain figure repeats, but joints will not show a mirrored effect. Slip matching is often used in quarter cut, rift cut, and comb grain veneers to minimize the barber pole effect. It may cause a leaning effect.

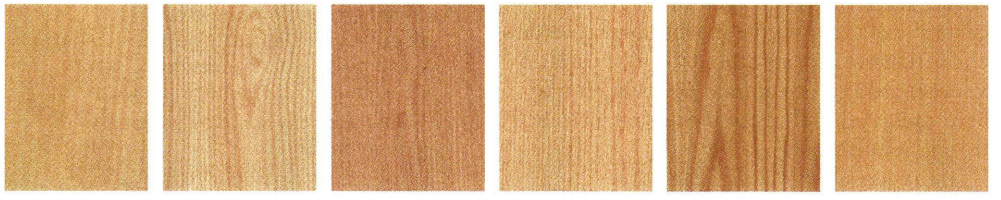
As the slicing advances, the leaves of veneer within a flitch will get wider or narrower, changing in appearance. To obtain a desired appearance in a door, how the individual leaves are configured requires specification. This is called an assembly match, and the most common arrangements are a running match, a balance match, and a center match. The running match is non-symmetrical in appearance on any single door face. Veneer pieces of unequal width are typical in this matching style, and each face is assembled from as many veneer pieces as necessary. It is the most common type of match. A balance match produces a more symmetrical appearance. Each face is assembled from an

RANGE OF COLORS ON SAME SPECIES WITH DIFFERENT FLITCHES

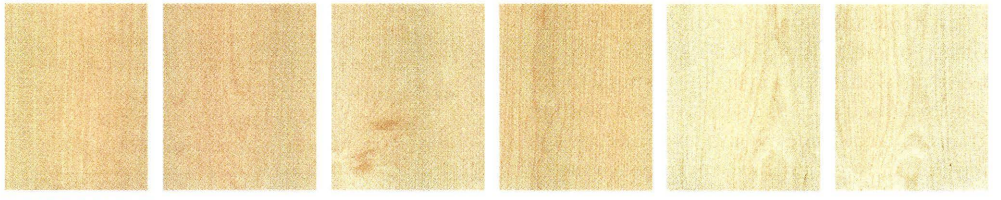
Photos below show a range of wood color variation using different flitches of the same species. Veneers have clear finish—no stains were added to samples.



CHERRY



RED OAK



WHITE MAPLE

As a product of nature, wood will vary in color and grain from tree to tree, or even within the same tree.

WOOD VENEER DOORS FOR DUKE CANCER CENTER

The Duke Cancer Center, a teaching and research hospital in North Carolina, is a 267,000- square-foot fully integrated cancer care and research facility. Offering state-of-the-art patient treatment with a more streamlined approach to cancer care, the building was designed with input and suggestions from patients, caregivers, faculty, and staff. With cancer care being the focus of the building, the atmosphere had to be warm and inviting, enabling patients to feel comfortable while maintaining their privacy. The manufacturer worked closely with the architect to select the ideal low-sheen finish for the more than 700 doors that not only met the visual requirements, but matched the millwork package seamlessly while providing the protection patients and staff demand. The fire ratings for the doors include 20-, 45-, and 90-minutes. Some of the doors used feature an Agrifiber core, which contains no added urea formaldehyde, and are composed of pre-consumer rapidly renewable material.

Photo courtesy of VT Industries, Inc.



Wood veneer doors at the Duke Cancer Center were specified for their ability to create a warm, inviting look, promoting patient comfort and privacy.

even or odd number of pieces of uniform width before trimming. This match reduces veneer yield. Center and balance matches also produce an asymmetrical appearance. Each face is assembled from an even number of veneer pieces of uniform width before trimming, and there is a veneer joint in the center of the panel. This match further reduces veneer yield.

Other assembly options include a pair match and a set match, which are specified for double doors. A pair match describes the way in which leaves of veneer are assembled for a pair of doors or a series of door pairs in the immediate vicinity. Doors may be, and in some grades must be, specified as pair matched where appropriate. A set match describes the way in which the leaves of veneer are assembled for sets of doors hung adjacently. Here again, doors hung in adjacent openings may be, and in some grades must be, specified as set matched.

Standards

Architects should become familiar with standards set forth by the architectural flush wood door industry and assure that their veneer selection is consistent with or exceeds the established requirements. The primary quality standards are the Window and Door Manufacturers Association (WDMA I.S. 1-A) and the Architectural Woodwork Standards (AWS) Quality Standards, sections 5 and 9.

WDMA is the industry standard for door manufacturers. The Architectural Woodwork Standards (AWS) are typically used in installations where the doors are blueprint matched with wall paneling and/or the doors are adjacent to millwork, requiring that the doors be consistent with the surrounding millwork. Most architectural and commercial doors are not directly associated with panels and/or millwork, and thus the WDMA requirements are more than adequate to assure consistent appearance among doors.

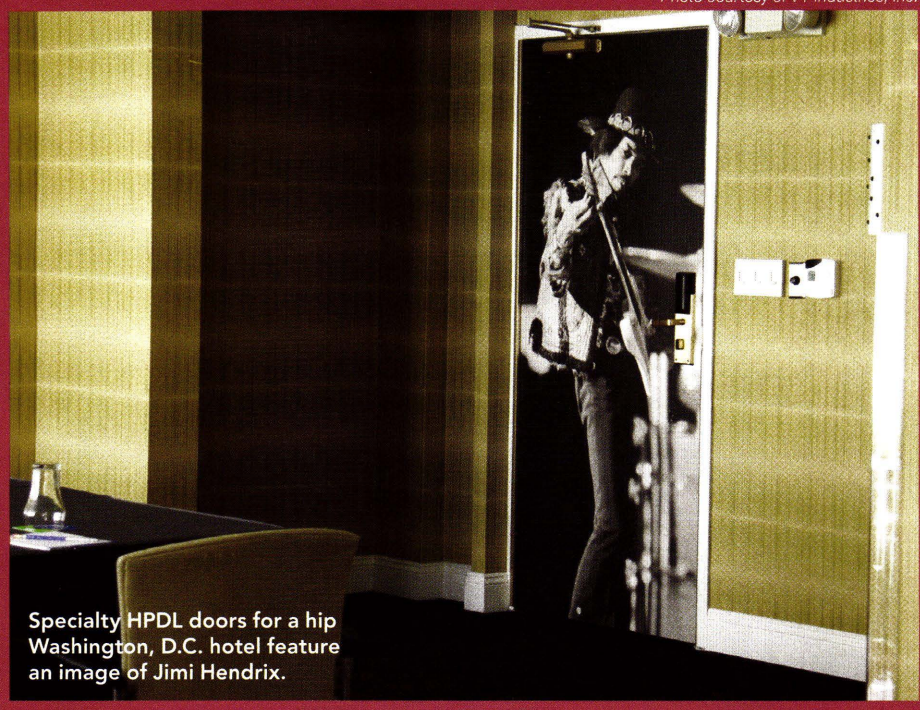
Both WMDA and AWS set two aesthetic grades for architectural wood doors: custom and premium. The custom grade provides a well-defined degree of control over the workmanship, materials, and installation of a project, and is typically specified for and adequately covers most high-quality interior architectural woodwork. Premium grade is reserved for special projects or featured areas within a project. Premium doors are specified when the highest degree of control is required. The difference between the two grades, custom and premium, is the veneer grade, adopted from panel and veneer grading tables established by the Hardwood Plywood and Veneer Association (HPVA), which is an ANSI-accredited standards developer, and from veneer assembly. The accompanying table (see article online) provides a quick reference. In both WDMA and AWS, Grade A face veneer is standard, with WDMA also stipulating book match and running match as standard. It should be noted that AA grade veneer also requires wider minimums for face components with plain sliced and rotary sliced flitches. Naturally, premium doors have a higher cost, and availability may be limited because of the AA grade veneer, center balance, and wider flitch requirements. Further, it is necessary to understand that if an aesthetic grade is not specified, custom grade is the default grade to be furnished. There is no difference in performance duty requirements for custom and premium doors.

SPECIES

While there are many species of wood veneer available, ranging from domestic to exotics, common door veneer species are generally considered to be birch, maple, oak, cherry, and African mahogany.

To ascertain the differences among species, it is important to understand sapwood and heartwood. Sapwood is the living, outermost portion of the branch, and heartwood is the center, mature portion of the tree, which makes up most of the cross section of a log. Generally, sapwood is a lighter color than heartwood. Certain wood species, particularly natural maple and birch, can vary widely in color range, which

Photo courtesy of VT Industries, Inc.



Specialty HPDL doors for a hip Washington, D.C. hotel feature an image of Jimi Hendrix.

SPECIALTY HPDL DOORS FOR JIMI HENDRIX FANS

Located in the trendy DuPont Circle neighborhood in Washington, D.C., The Helix Hotel is dedicated to making its guests feel like rock stars. One way the hotel accomplishes this is with four unique doors. Oversized images of rock legend Jimi Hendrix were transformed onto laminate doors for meeting spaces aptly called soundstages and casting rooms. The specialty doors required a high level of coordination among all parties involved in their production. The architect brought in the door manufacturer for consultation and estimating, and the image copyrights were purchased from the Jimi Hendrix foundation. The images of Jimi Hendrix were first sent to a company that manufactures surfacing materials to create the laminate and make the necessary adjustments for size and clarity. Once the architect gave final approval, the laminate was then shipped to the manufacturer for production of the doors.

is why in many cases "select white" is specified so that the sapwood can be accumulated and spliced together to create a consistent color. When specifying "natural" maple and birch, the veneer will contain unlimited amounts of the lighter colored sapwood and/or the darker heartwood unselected for color as well as color streaks, spots, and color variation from almost white to very dark. If a light-colored veneer is preferred, architects should specify all-sapwood maple or birch. If a dark-colored veneer is preferred, specify all heartwood. Veneers, such as maple and birch, may contain sapwood/ heartwood combinations.

Each species has its own inherent characteristics. Red oak, for example, has a coarse, open grain pattern and is more uniform in color with less flake than white oak. By contrast, maple is known for its straight, moderately close grain pattern; it contains both heartwood and sapwood. Birch has a close grain pattern and, like maple, contains heartwood and sapwood. Cherry has a light reddish-brown color and a straight, satiny grain, and mahogany offers a distinct, pleasing grain pattern and has light pink to reddish and tannish-brown colors.

Natural Variation

Wood is a product of nature and, as such, can enhance a project design and aesthetic goals when used in its purest or natural state. However, each wood species will vary in color and grain from tree to tree, or even within the same tree. Environmental factors, such as climate and soil content, can cause each veneer species to exhibit a range of colors and textures. In addition, each wood species has its own particular and industry-acceptable characteristics, and it is precisely these naturally occurring variations that provide such richness and uniqueness to each project. Light and oxidation also contribute effects and can change a face veneer color.

Finish Options

Architects can usually consult factory finish samples to confirm the basic color, grain fill, and gloss level of the various finish systems. Most manufacturers also offer a custom finish—providing a small swatch of the desired finish color is typically all that is needed for a quality manufacturer to provide custom matching services.

FACTORY FINISH—CONTROLLED CONDITIONS

The factory conditions of a manufacturer can make a difference in the quality of a finished veneer door. A clean, well-lit plant with automated sanding and staining functions stands in sharp contrast to poor jobsite conditions in the field where dust, poor lighting, and hand sanding and staining may potentially lead to inconsistency in the finish and unacceptable overall results.

That is not to say, however, that all manufacturing plants are created equal. These advanced capabilities enable manufacturers to produce consistent and durable results. In state-of-the-art facilities, doors with veneer faces are first sanded using coarse sand paper, followed by fine sand paper to remove any raised wood fibers. The finish process begins when a water-based stain coat is rolled and brushed into the veneer and dried under heat. Brushing the stain ensures the stain penetrates the veneer grain; this is important for veneers with open grains. Multiple sealer coats are applied next, sealing the stain and achieving the desired gloss to the finish. The seal coats are now finely sanded to remove any wood fibers that may have raised. Finally, top coats are applied and UV treated, ensuring a hardened finish that cures and encapsulates any VOC emissions.

Continues at ce.architecturalrecord.com

VT INDUSTRIES Architectural Wood Doors

Headquartered in Holstein, Iowa, VT Industries, Inc., is North America's leading manufacturer of architectural wood doors, VT Dimensions countertops, and VT GeoScapes and TruQuartz stone surfaces. The company's three divisions serve customers from nine manufacturing facilities strategically located throughout the U.S. and Canada. For more information. visit the company's website at **www.vtindustries.com**

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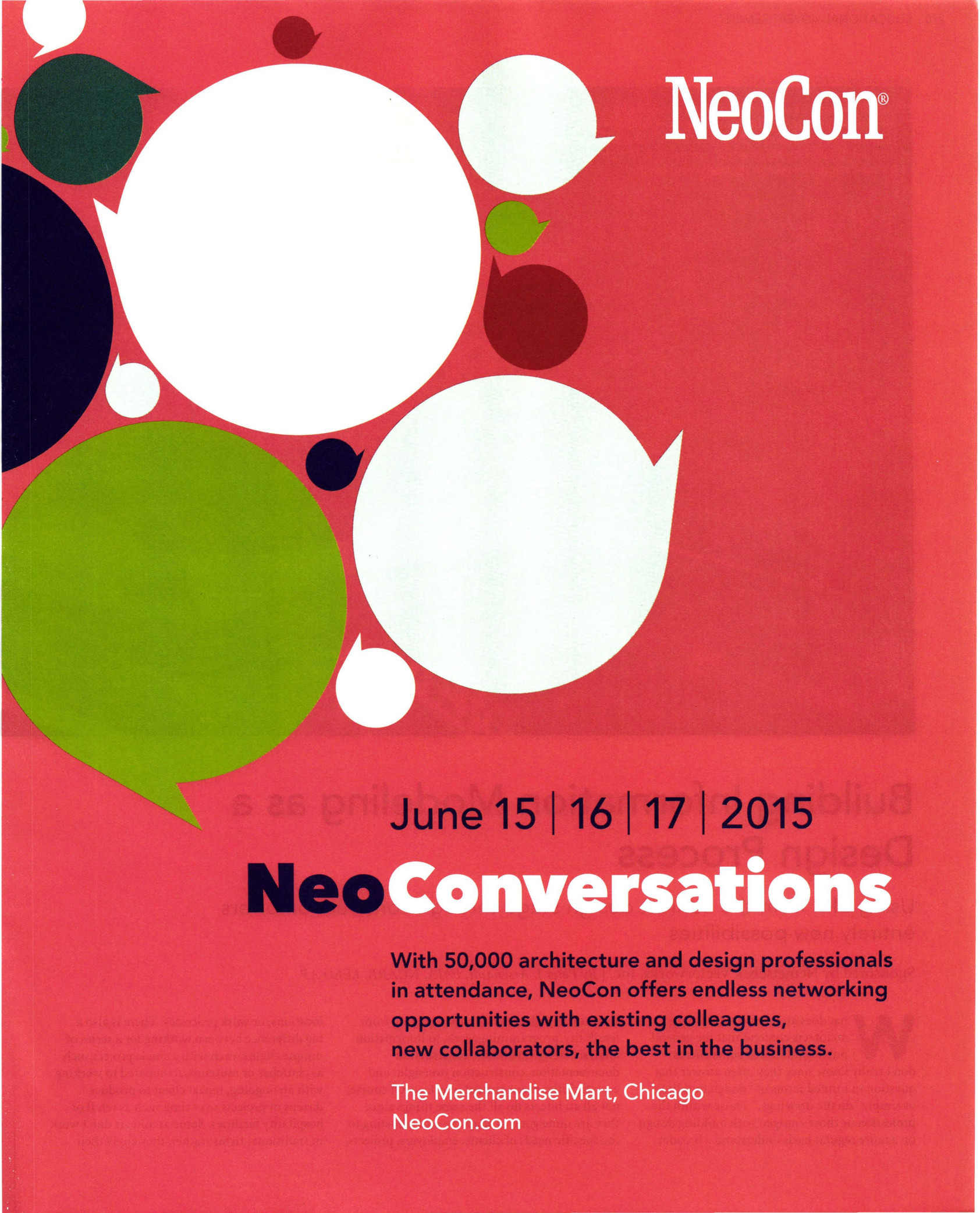

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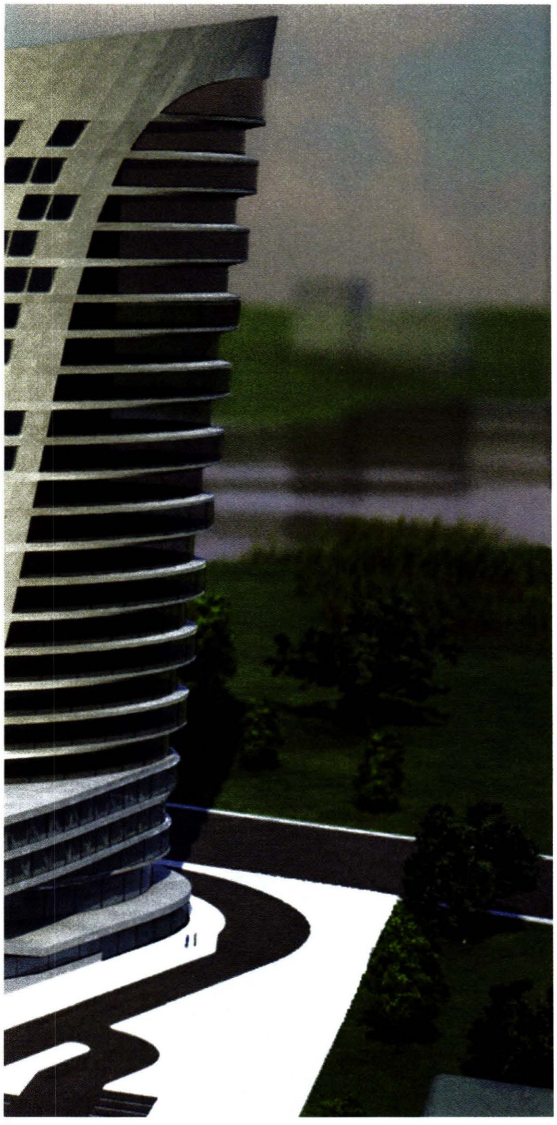
New York City-based GRO Architects is using building information modeling (BIM) to design the CNBM World Headquarters building in Bengbu, China. They are among a growing number of firms that are using BIM from the earliest stages of design through construction.

Building Information Modeling as a Design Process

Using BIM from the earliest design stage through construction offers entirely new possibilities

Sponsored by Nemetschek Vectorworks, Inc. | *By Peter J. Arsenault, FAIA, NCARB, LEED AP*

What does an architect do? Many architects contend that the general public and indeed some clients don't really know since they often answer that question in limited terms of "design buildings" or simply "do the drawings." Those within the profession or those engaged with building design on a more regular basis understand a broader scope of an architect's activities ranging from feasibility/programming work, to information analysis, design synthesis, construction documentation, construction oversight, and even facilities management interface. Of course, not all architects do all the same things since they are quite good at adapting and adjusting to the specific needs of clients, employers, projects, locations, or work processes. There is also a big difference between working for a series of unique clients, each with a single project such as churches or museums, compared to working with an ongoing, repeat client to produce dozens of projects over time such as retail or hospitality facilities. Some architects don't work in traditional firms; rather, they apply their



talents within organizations such as government agencies, commercial corporations, non-profit entities, or educational institutions. And of course, not all projects developed, regardless of the owner, are new buildings since a majority of design and construction work in the United States is focused on the renovation of existing buildings. Despite all of these differences and variables, there is one thing that all design professionals have in common—namely, engaging in a process with building owners and other professionals to create a design, whether simple or complex, that becomes the basis for construction work to take place and the design to become a reality.

THE DESIGN PROCESS

What is the design process? The answer to that question is about as individual and personal as they come. Different design professionals will have different starting points. Some will begin with information and data, others will start with an intuitive approach, and still others may use an external inspiration. The methodology to develop a design is also varied and often quite personalized. Some use words and numbers while others choose pencil drawings, cardboard models, computer software, or a combination thereof. Some assume that many different design options need to be looked at while others limit themselves to a preferred concept and develop it in detail from there. Hence, it is easy to see why the actual design process varies between firms or organizations and even among people within those organizations.

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Learning Objectives

After reading this article, you should be able to:

1. Investigate building information modeling (BIM) and the creative design process as part of the same overall workflow of building design and construction rather than separate actions.
2. Recognize BIM as a process, not simply a software program, which can be used to improve the design and safety of buildings.
3. Assess the ways other building designers are embracing a BIM workflow and incorporating BIM as an integral part of the design and construction process.
4. Differentiate between a traditional 2D documentation process and a 3D building information modeling workflow.

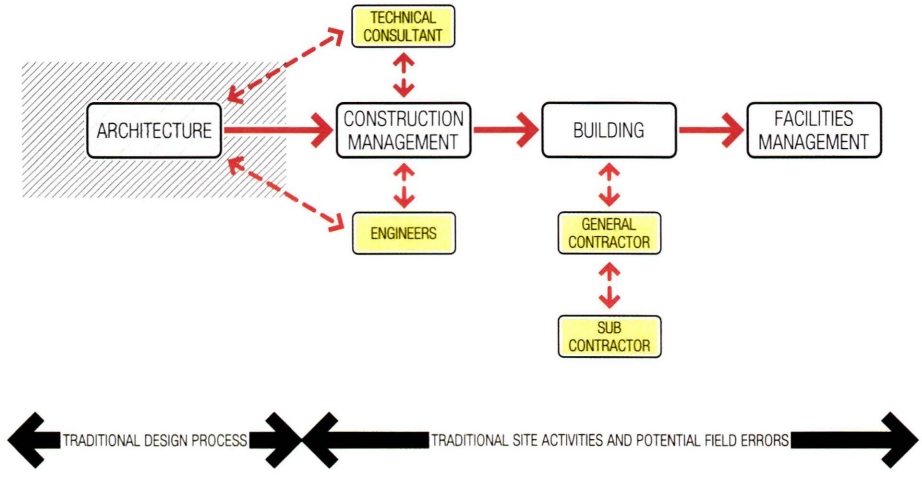
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Adding to this mix of variables in the process is the latest advancement in design resources available, namely building information modeling (BIM). While much has been written and many people have been involved in creating and using BIM tools for the past few decades, there are still a number of misperceptions about what it is and how it fits with the process of design and construction. Those who are able to set aside preconceived notions and open up to the possibilities that BIM provides as a genuine design tool can discover transformative ways to look at what architects do and find truly exciting new options for creative solutions that may not have been thought of before.

BIM and Design

Among the professionals who have studied the full potential and promise that BIM holds for architects, Richard J. Garber, AIA, director of the School of Architecture at New Jersey Institute of Technology (NJIT), is noteworthy. Beyond his impressive academic career focused on building sciences and green architecture, he is also a practicing architect and principal in the New York City-based firm of GRO Architects, PLLC, allowing him to experience both the real-world issues of running a firm in addition to researching the trends and experiences of other firms around the globe. He has recently authored a book, published in England, titled *BIM Design – Realising the Creative Potential of Building Information Modelling*.[1] In this work, he confronts the role of architects and others in the design and construction process. He points out that the typical 20th-century architect became increasingly separated from the construction process as new professions of construction managers and owners' representatives began to take on leadership roles previously enjoyed by architects. Accordingly, architectural offices became places where drafting tables



The traditional, 20th-century process of design and construction typically separated the architects from the contractors and in many ways diminished the role of the architect.

Image courtesy of Richard Garber, AIA, and GRO Architects, PLLC

CREATING WELCOMING SPACES FOR EVERYONE

For designers at ROJO Architecture, working in a space that's suited for play provides just the right mental break to spark their next great idea. Their office sits inside of what was once a busy shopping mall until a recession forced commercial building owners to rethink the space. Principal and Cofounder Rob Glisson enthuses that while the spacious, 25-foot hallways are perfect for throwing footballs, the real benefit of the structure's openness is how it facilitates collaboration. "Anytime you have something to offer to make a project better, you're expected, and able, to do so," he says.

It's this drive to work cohesively that allows Glisson, Cofounder and Principal John Saldana, and a team of seven other architects to respond to the medical, religious, commercial, hospitality, and private-sector clients they serve. "We're really working for our clients' clients and responding to their needs and desires," notes Saldana. "We don't necessarily bring a style to the job as much as we let the job bring a style to us, and then we focus on doing that correctly."

From Retail to Healing: A Space Transformed

One example of ROJO's focus on end users is their conversion of a 27,550-square-foot bookstore into a space conducive to orthopedic care, education, and research for the Florida Orthopaedic Institute. Because the site was once a large, open space with little privacy and no natural light, ROJO was challenged to meet the functional needs of the medical facility, as well as transform the entryway into a welcoming destination.

The result of their efforts is a space that patients and employees are happy to enter because it replicates the vibe of an upscale hotel lobby. The experience begins with a glass wall, featuring a cascading waterfall behind the facility's nameplate. This striking focal point wasn't meant to be an interactive water feature, but people touch this playful design element every day, creating a memorable, if unintended, experience. From there, a winding path cuts through the space, using sophisticated gray and gold carpet that complements wood-lined walls with recessed shelving featuring artwork, as well as plush upholstered furniture with modern industrial lighting.

As an early embracer of technology, ROJO has employed a building information modeling (BIM) tool for several of its projects, including the Florida Orthopaedic Institute. The firm modeled the design right in BIM software from the start, often adding far more detail than necessary for initial client signoff. This approach proved to be beneficial. "The better we can show our designs, the better we can sell them," says Glisson. "And it works." With fully developed presentations, he adds that their client meetings are 95 percent successful.

Saldana remarks that operating in a BIM workflow also reduces the firm's backend work significantly, saving hundreds of hours. "Even though clients often look at 2D drawings, we have everything backed up in a 3D model. We know a lot more about their space than it appears." ROJO also encourages its contractors to use BIM. "Precise quantities can save 10 percent on wasted materials," says Glisson. "Passing these savings along to clients clinches more bids. It's a win-win for all."





A Bright Future with BIM

Looking ahead, ROJO's founders envision BIM playing an increasingly larger role in streamlining their workflows. For example, Glisson asserts that as subcontractors develop BIM models for their millwork, HVAC, and other products, construction details prepared by the architects are no longer necessary. Architecture firms like his can therefore work with the subcontractors and contractors directly. "We don't need to create a BIM model and then have them BIM again," he says. "The subcontractors can just BIM their work first and bring it back into our model. That's going to be a lot of fun to work with." How soon can everyone get there? Glisson and his team hope to leverage their experience with BIM to help the contractors they work with make process improvements within five years.

Saldana also sees huge timesaving opportunities with more prevalent BIM. "Contractors can input our model into their shop drawings. Then, we can put 100 percent of our time into the design, rather than documenting and drafting, and provide more accurate bidding." That sounds like progress for everyone.

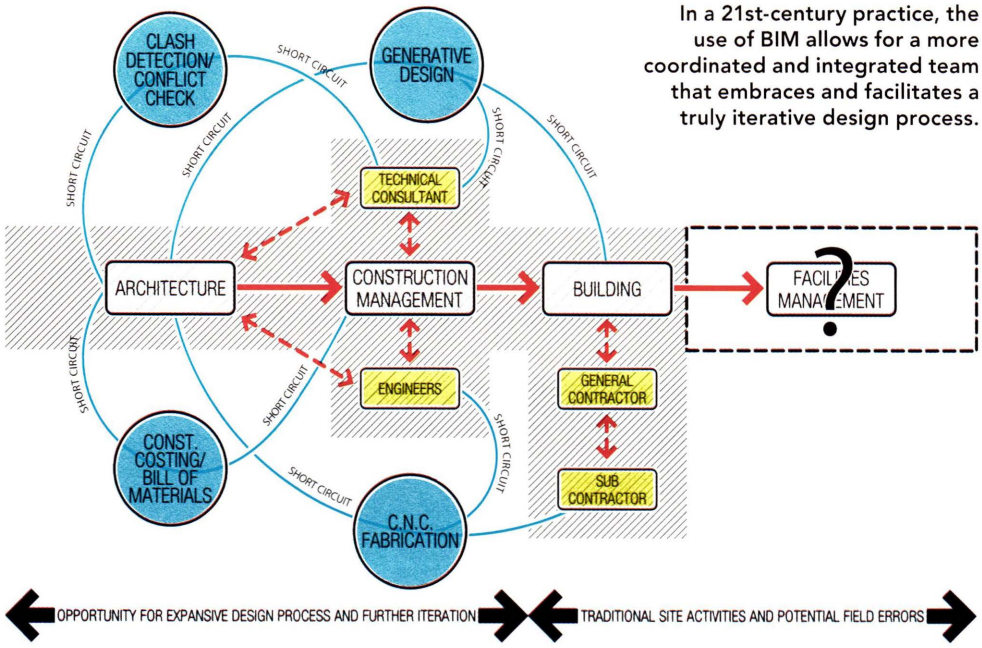
were the primary workstation, and a hierarchy of designers, managers, and draftsmen produced 2D representations of buildings on linen, paper, or Mylar media. Some design professionals had limited exposure to the on-site construction processes or the people involved in the fabrication of products, materials, or construction of the building.

Garber points out that this separated role of the architect is in sharp contrast to the historical role of being the "Master Builder" who was responsible not only for the design but for the execution of the construction through to completion, as well. In some locations, the emergence of "design-build" firms has sought to reclaim this Master Builder role although there is certainly a mix of results on that front. In some cases, architects have been the leaders of the design-build process while in other cases they act essentially as subcontractors to a construction firm. Furthermore, in some parts of the United States, licensing laws and design-build legislation have severely limited an architect's role in design-build projects.

Nonetheless, there remain many architects who care deeply about construction as the actualization of their design work. They understand that successful designs rely on a real knowledge of materials, products, fabrication processes, and construction assembly techniques. They also acknowledge that new versions of all of these things are constantly being developed, requiring the input of specialists focused on particular aspects of a building.

What does all of this have to do with

Image courtesy of Richard Garber, AIA, and GRO Architects, PLLC.



In a 21st-century practice, the use of BIM allows for a more coordinated and integrated team that embraces and facilitates a truly iterative design process.

the design process? Garber asserts that computerized building information modeling allows the architect to use new tools to re-connect design directly with the construction process and regain the lead role in the overall process. It is significant to note that he uses the word "modeling" rather than the word "model." Modeling is a verb indicating an ongoing activity that starts with the very beginning of the design process and carries all the way through construction and even facility management. Model is a noun and refers to one of multiple outputs of the modeling process. This is not unlike thinking about the difference between using the word "drawing" as a noun or a verb. Drawing as an action is what architects and draftspersons are known to do as an ongoing process to explore, alter, and ultimately produce a final design. A drawing, used as a noun, is the output of the process of drawing. Hence, the first thing an architect needs to understand about realizing the full potential of building information modeling is that it should be regarded as an active process and not a static output. Further, as a fully customizable process, it is entirely adaptable to meet the personal design process of virtually any firm or individual. There is no one BIM process any more than there is only one drawing process.

Linear Versus Iterative Design

Richard Garber and others have noted that even though there are many variations on design process, it is not a truly linear thinking exercise. While there is an order to the process, it does not necessarily follow that it begins with site design, moves to foundation and structure, then to the building envelope, and on to the interiors, although the information outputs may be presented that way. Rather, it is more likely that any of these aspects of the design are being worked on at any time, testing different concepts or ideas, receiving feedback on what works well and what doesn't, refining the concepts, or moving on to entirely different ones. That process of repeating by trial and error, hypothesize and test, design and assess, is referred to as an iterative process. The best design results often come about when a design team employs that back and forth workflow or learning from different iterations of a design. Each bit of feedback informs the overall design so that intelligent decisions can be made about how to improve, refine, alter, or abandon a particular design, at the overall level or the detail level. This is true whether geometric form is being pursued or the functional performance of the structure, building envelope, or mechanical system is being tested and assessed for the best outcomes.

Many architects are familiar with the seemingly linear process described in the various forms of owner-architect agreements for services as prepared by the American Institute of Architects (AIA) and others. These documents walk through a traditional set of milestone tasks that may begin with programming and data collection and then move to conceptual designs captured in the Schematic Design (SD) Phase. At this point, the deliverables to the client have historically included sketches and preliminary 3D drawings or perhaps some prepared models. Once a selected concept is agreed upon, it is advanced, usually on different 2D drawings during the Design Development (DD) Phase, which is sometimes also referred to as partial (50-60 percent) construction drawings. Since the ultimate deliverable is viewed as a stamped set of Construction Documents (CD), this phase is where the full details of all building components and coordination with other trades come into play. A full set of construction documents includes both drawings and specifications that provide the details of all materials and systems used in the final building design. It may also include a cost estimate and information on construction time schedules, often prepared by hand using the drawings as the basis. Meeting the deliverables and milestones of each phase is often focused on hours spent on the project and targeted dates for completion. Within those boundaries, the design and drafting work needs to take place and the results need to keep the project moving forward in order to keep the project on budget and on schedule while allowing the firm to remain profitable.

While this all sounds very logical and appropriate, it is worth noting that this phased sequence is useful for contractual arrangements between owners and clients but may not truly reflect the day-to-day process of design. The reality is that the process of analyzing and assessing different design iterations can often defy such clean, sequential design workflows. True design exploration involves creativity and freethinking, which is not always compatible with imposed constraints and time restrictions. Further, each milestone or deliverable is an opportunity for feedback from the client, consultants, or other stakeholders on the project, which means that design revisions may emerge as necessary tasks to meet the overall objectives of the project.

See endnote in the online version of this article.

Continues at ce.architecturalrecord.com

Peter J. Arsenault, FAIA, NCARB, LEED AP, *is an architect and green building consultant who has authored over 100 continuing education and technical publications as part of a nationwide practice. www.linkedin.com/in/pjaarch*

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CIRCLE 147

About Face: Giving Existing Towers a Modern Edge With Recladding

Using new curtain walls to improve high-rise façades for better design, value, and performance

Sponsored by the Ornamental Metal Institute of New York | *By Peter J. Arsenault, FAIA, NCARB, LEED AP*

Photo courtesy of Pelli Clarke Pelli Architects



Construction methods for multi-story buildings have advanced notably in just the past 100 years. Where architects were previously limited to load-bearing exterior walls of masonry, concrete, or wood, the introduction of the now ubiquitous steel frame made a dramatic difference in the way exterior walls could be envisioned, treated, and detailed. At the same time, advances in glass and glazing technology allowed for better and bigger windows whether fixed or operable. Combine this construction evolution with predominant architectural styles that favored sleek, modern, and contemporary appearances and it is easy to see why high-rise buildings have become fertile ground for creatively applying new types of façades or building skins. The system of choice for multi-story buildings has become a curtain wall, which can be manufactured in several types, take on numerous forms, offer virtually unlimited design options, and provide high levels of energy efficiency. While architects and engineers find curtain walls to be appealing, building owners also favor them because they can help to identify or brand their building significantly. This is not only true for new buildings, but for existing buildings that may have an exterior appearance that has become worn and dated, causing the value of the building or its rental spaces to decline, not to mention its energy efficiency. Office building owners in particular often seek to upgrade spaces that are not currently attractive to modern businesses and their employees into Class A office space with better human comfort and energy performance.

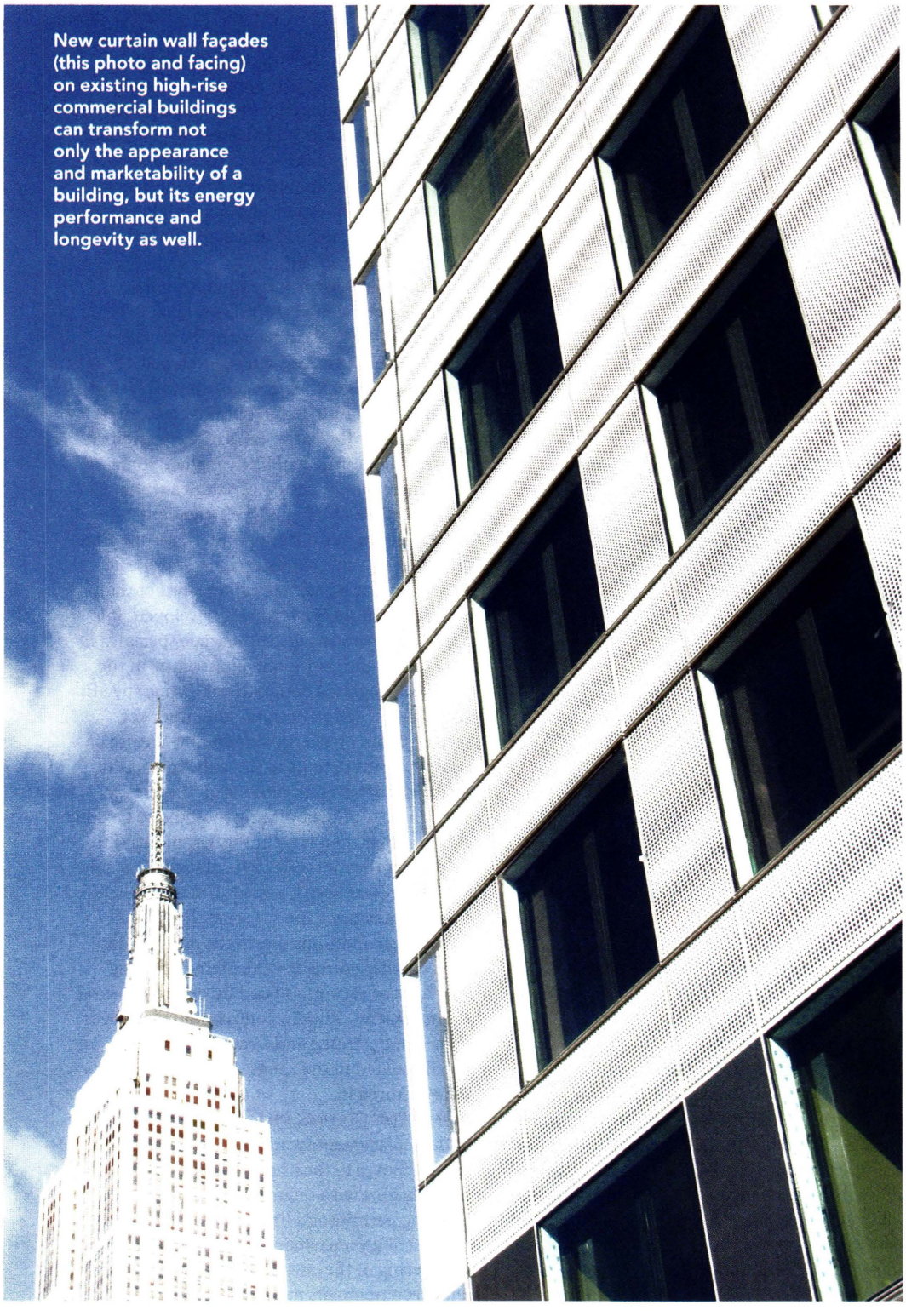
Perhaps the single most important material common to recladding façades with curtain wall systems is glazing products. Long seen as purely architectural statements, the current generation of all-glass buildings is increasingly being promoted as an energy-efficient, environmentally friendly solution that enhances occupant experience as well as building performance. Technological advances are responsible for this performance boost with glazing currently available that can be treated to manage daylight and glare, feature low-emissivity for thermal control, and provide user privacy or transparency without compromising light quality. In concert with the pace of these technological innovations, recent investigations into the effect of the indoor environment on people suggest that basic design choices regarding the building façade—notably natural daylighting and ventilation—can dramatically affect the performance of not only a building but also the people who use it. Hence, no longer viewed as just an assembly of materials providing environmental separation between conditioned space and the exterior environment, the curtain wall façade is now recognized as an integral component of high-performance building systems with measurable user benefits.

Design teams that understand how to transform outdated building façades by replacing them with new curtain wall systems can meet the business objectives of the owner, enhance indoor environmental quality, improve energy performance, and create notable design statements in the process.

DESIGN CONSIDERATIONS: RECLADDING WITH CURTAIN WALLS

Many high-rise commercial buildings exist in urban environments with façades that have become worn and deteriorated over time, producing an appearance that has become dated and unappealing. This could be true if the building has a façade made of traditional materials such as masonry, concrete, etc., or if it has an early version of a curtain wall system that has become obsolete. Either way, design teams and building owners will often cite a number of practical reasons to renovate existing façades with new curtain walls. The first is to take advantage of the advances in curtain wall technology that have occurred in the last 30 years or so. This is particularly true in glazed portions of curtain walls, but is also true in opaque, insulated components with improved energy efficiency and related operational cost savings. The methods of attachment and joining components and panels have also improved, allowing for better sealing and weatherproofing of the building skin.

Photo courtesy of Pelli Clarke Pelli Architects



New curtain wall façades (this photo and facing) on existing high-rise commercial buildings can transform not only the appearance and marketability of a building, but its energy performance and longevity as well.

CONTINUING EDUCATION

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Learning Objectives

After reading this article, you should be able to:

1. Determine the state of existing tall buildings including the obsolete nature of many existing curtain wall façades.
2. Identify and recognize the characteristics of high-performance curtain wall systems as defined by common standards.
3. Investigate the design potential and innovative opportunities to renovate existing building façades to make them safe, code compliant, and better performing.
4. Assess the functional contributions of new curtain walls as they contribute to green and sustainable design.

To receive AIA/CES credit, you are required to read the entire article and pass the test. Go to **ce.architecturalrecord.com** for complete text and to take the test for free.

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In our current 21st century experience, a curtain wall system is defined as a complete exterior envelope that provides a non-structural, relatively lightweight, weather-tight covering on buildings. Being lightweight, it reduces both the load that must be supported and the manpower needed to erect it. Curtain walls are generally installed outside of the structural system of a building, running continuously past floor slabs and other structural elements. They are attached via tiebacks and connector plates directly to the building structure at floors, columns, and beams. As with early versions, all wind loads and dead loads imposed on the system are compartmentalized and transferred directly back to the building structure, which in turn needs to be designed to carry them.

In terms of their impact on people, new, well-designed curtain wall systems routinely achieve improved comfort for occupants. They also provide ample daylight to spaces, allowing not only human benefits, but also the opportunity to turn off electric lights, thus reducing air conditioning loads and energy costs further. In tall buildings, new glazed curtain walls offer exceptional opportunities for dramatic views of the surrounding urban landscape. All of these features, coupled with a new, up-to-date appearance, feed directly into the ability of a building owner to market rental space within the building. In particular, office buildings, mixed-use buildings, condominiums, and other high-profile properties benefit from a well-designed curtain wall upgrade by allowing them to be sold or leased as first class or Class A space. The particulars will vary from building to building, of course, but it is easy to see where an investment in the exterior building skin can produce favorable paybacks on many fronts.

Renovation Design Process

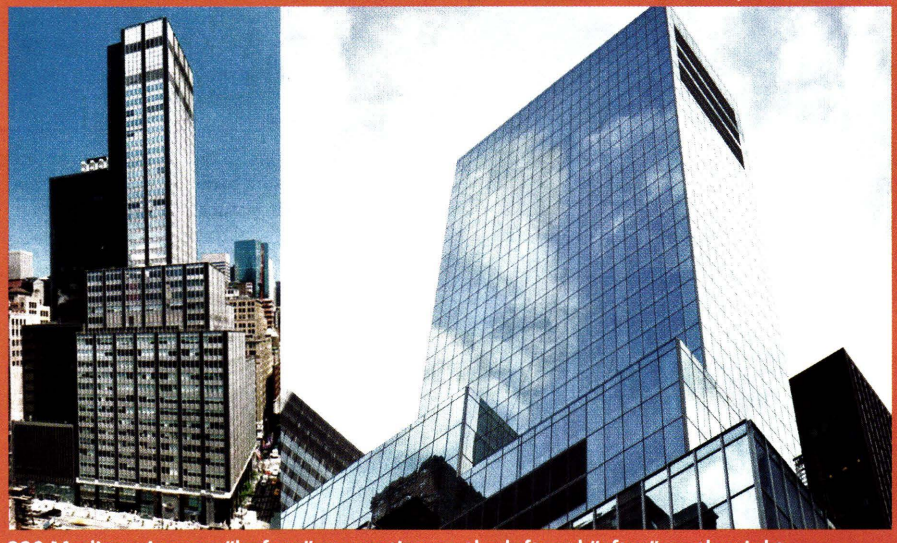
Renovation and replacement of façades on existing high-rise commercial buildings is different from the process used for new buildings. Professionals involved in this work have documented the process based on their own and their company's experience.[1] They point out that replacing a building façade requires a

330 MADISON AVENUE, NEW YORK, NEW YORK

Project type: Over-clad curtain wall
Architect: MdeAS Architects, New York, New York
Owner: Vornado Realty Trust

The building owners called for a sweeping $100-million complete overhaul of this 42-story, 742,000-square-foot office building. The architect, MdeAS, designed a custom curtain wall system to be installed over the existing exterior wall, deciding that this over-cladding approach was preferable to other alternatives. The new curtain wall is comprised of high-performance insulated glass units, which greatly enhance the energy performance of the building envelope compared to the original condition. The curtain wall also creates the modernized and sleeker appearance that the building owner sought, improving the value and marketability of the rental spaces within. Completing the transformation, MdeAS also expanded and renovated the lobby, introducing a palette of dark granite floors, beige marble walls, and a uniquely designed ceiling and lighting system punctuated by a richly veined marble feature wall.

Photos courtesy of MdeAS Architects



330 Madison Avenue "before" renovation on the left and "after" on the right

good bit of proper planning and analysis. In new construction, the process is not encumbered by existing conditions or occupancies. By contrast, the renovation of any occupied, existing building needs to fully take into account the existing conditions, including the people who may or may not occupy the building during the renovation. Having a full understanding of those existing conditions is often critical to the success of any renovation project.

Consideration and execution of a recladding project on an existing building can be broken down into the following three phases:

1. FEASIBILITY PHASE The first step is a feasibility study or assessment to determine the pros, cons, benefits, and challenges to a retrofit. It begins by articulating a preliminary set of goals and objectives as developed by the owner in concert with the design and construction team. This is followed by a basic building survey to collect the relevant information about the building structure, the existing façade, the current and intended use and layout of the building, and other relevant design factors. Concurrently, the owner will likely engage in some financial analysis and planning to determine budget parameters while preliminary construction estimates are developed. Also at this point, it is important to address and take into account the disruption to building operations and how to plan the work in light of occupants remaining in place or moving to an alternate location. The question comes down to who will be impacted the most—the occupants as work is being done, or the contractor as they adjust schedules and workflow to accommodate occupant needs. Either way, the decision needs to be made so occupants can relocate either to other spaces in the same or another building or remain where they are with some degree of temporary barrier between occupied space and the renovation work. All of this will have an impact on the proper sequencing and workflow of the renovation, and of course will affect the overall cost of the project as well. Relocating occupants to another location will likely allow the work to progress more quickly, but will create added cost for moving (out and back in) plus any difference in rental costs. Remaining in place may appear to be more cost effective, but could reduce work productivity for both contractors and occupants. The result of this feasibility phase is a collected body of information that allows the owner, designers, constructors, financers, and other stakeholders to make fully informed decisions on the best means to move ahead.

2. DESIGN PHASE Information from the feasibility phase directly informs and helps direct the design phase of the façade replacement. As the design is developed, the specific details of the new curtain wall system can be moved into design options that can be tested against the parameters of the feasibility phase. That testing will likely include some ongoing review of design variables as they affect both cost and energy efficiencies of the project. From a cost standpoint, this is the time to engage in value engineering as appropriate to help ensure a positive outcome rather than wait until the design is too far developed. It is also the time to engage with façade specialists, engineers, fabricators, and contractors in the spirit of integrated design to determine specific cost drivers, design options, and other key factors. From an energy standpoint, the use of computer simulations to show the impacts of different curtain wall options on the energy performance of the building should also be done earlier rather than later in the design phase to help select the most effective solution. Once the choices are narrowed, a final structural analysis will be necessary to be sure that the change in loading conditions due to the new façade can be either borne by the existing building structure or accommodated through structural enhancements. Finally, code compliance needs to be demonstrated and a review of the relevant details related to fire safety, loading, etc. needs to be factored in.

3. IMPLEMENTATION PHASE With the design of the replacement façade fully developed, the project moves to the implementation phase which begins with securing the appropriate building permits and lining up the full cohort of construction participants. The procurement or ordering of the curtain wall system and any related components needs to be undertaken so that fabrication and assembly can then get scheduled and underway. Overall, the construction work needs to be scheduled to allow for portions of the selective demolition of the existing façade to be coordinated with shipping and delivery of the same portions of the new façade. That means that installation may occur in one building area at a time or across multiple sections of a building as

determined to be most appropriate to the specific project. As work progresses, the removal and recycling of any construction and demolition debris needs to be carried out so the site remains clean and safe. Perhaps one of the most important things during this entire implementation process is quality control. Therefore, it is recommended that a façade commissioning agent be retained to assure that the end result performs correctly as designed and meets everyone's satisfaction.

Design Strategies

While the aforementioned three-phase process remains fundamentally the same across all façade renovation projects, there are five fundamental design strategies that can be considered.[2] Each one has varying impacts on the existing building and are discussed further as follows:

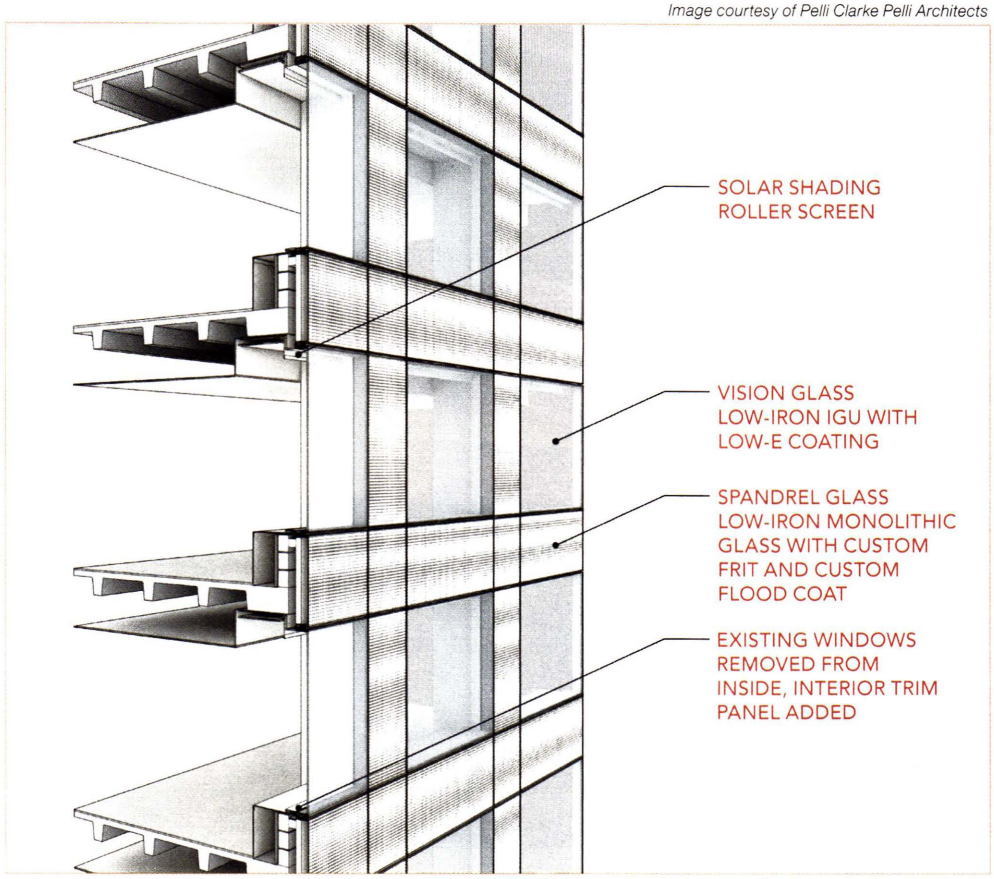
▸FAÇADE REPLACEMENT This approach is the most complete in that it involves the complete removal of the existing façade and related building components, often down to the building structure. With the old materials cleared away, a completely new curtain wall façade system can be designed and installed. This new system will likely have little if any resemblance to the old one in terms of appearance and performance. This is usually the intent of the full replacement—to create a completely different, modernized look that also meets the current user and performance demands for the building.

▸RECLADDING This approach does not require a full replacement; rather the retrofit can be limited to the replacement of selective façade or cladding materials. An assessment of the building may determine that there are some substandard or obsolete cladding components that sit next to other components that are still quite usable and serviceable. The intent is to keep and work with the ones that are in good condition and replace the poor ones with new and better-performing materials. An example of a curtain wall recladding of this type might be to replace old single-pane glazing materials with new high-performance insulated glass units (IGUs). Often portions of the curtain wall system, such as original framing and opaque wall sections, can be retained while glazing, seals, and trim can be replaced with new. Similarly, anchorages may be retained, added, or reinforced as required by the final recladding design.

▸OVER-CLAD SYSTEM A different approach to removing anything from the existing façade involves creating a custom framing and/or panel system designed to be applied directly over the existing one. This saves on selective demolition costs and can help retain some of the positive properties of an existing system with less disruption to adjacent building construction. As with recladding, outdated glass panel materials including vision glass panels are often replaced with high-performance IGUs. Anchorages for the new over-clad system may be added or existing ones can be reinforced as required, all working within the limits and confines of the existing building structure. The new system is then trimmed out to the interior as necessary to provide a finished product.

▸DOUBLE-SKIN SYSTEMS This design strategy can be considered a variant of the over-clad method since it involves the addition of a new second skin to an existing façade. However it is distinguished as unique in that this second skin is separated by some distance from the first, thus creating an intentional cavity between old and new. The cavity can then be used in a variety of ways to impact the performance of the building envelope. As an added layer, the double skin can temper the exposure of the building's interior to the weather and elements. With appropriately specified new glazing over an existing skin, it can help reduce glare, adjust visible light transmittance, and control solar heat gain. Through the use of well-designed air inlets and outlets, the cavity can be used to temper fresh air used in HVAC systems. This approach may work particularly well where innovative approaches are needed to notably improve energy performance of an existing building. It may not be appropriate where the existing building is already constructed along lot lines or zoning setback lines that will not allow the added depth of the building of the double skin façade.

Image courtesy of Pelli Clarke Pelli Architects



The process of renovating an existing façade requires an initial feasibility assessment of the existing building conditions and an analysis of the design options available.

See endnotes in the online version of this article.

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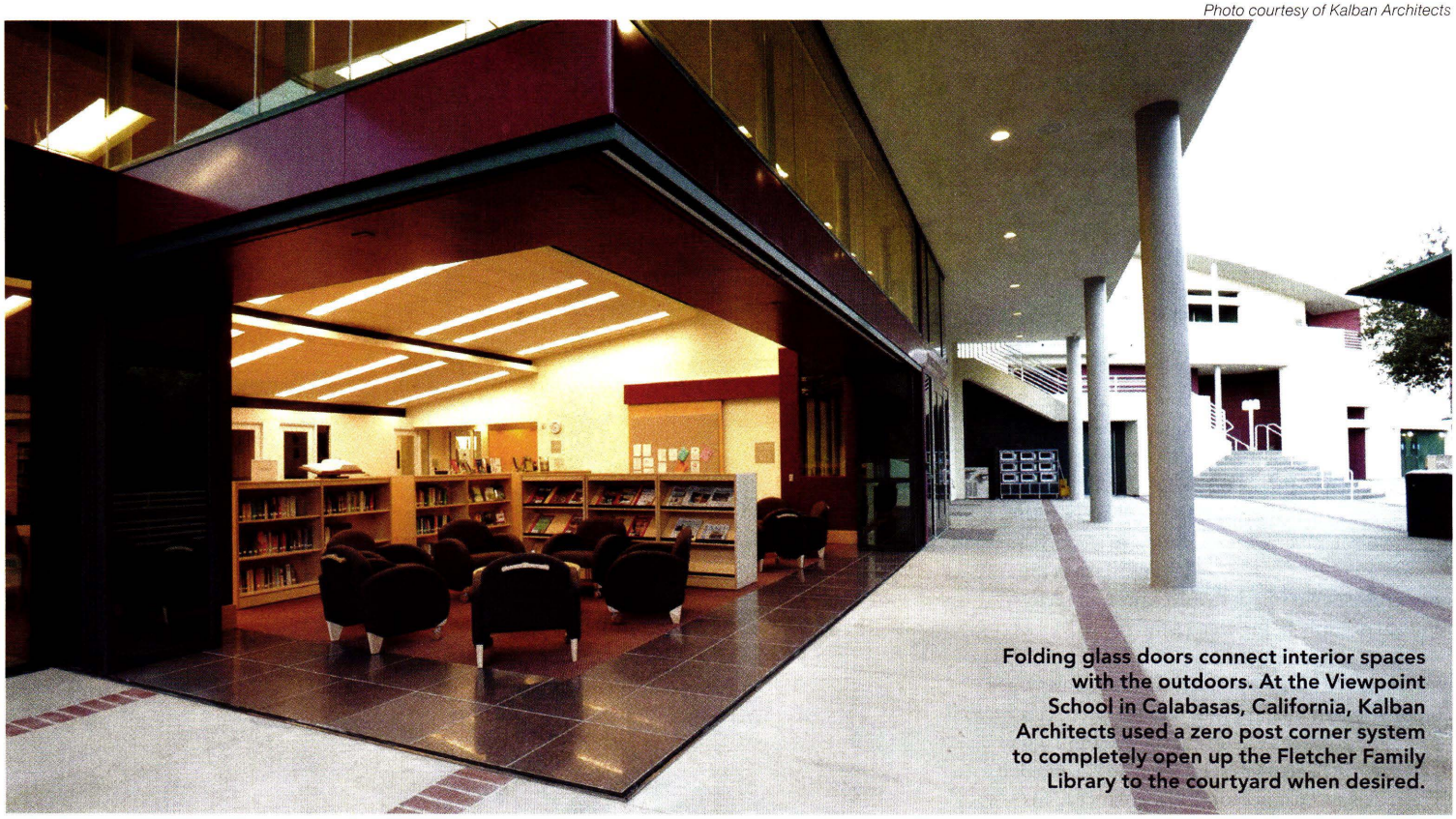
Peter J. Arsenault, FAIA, NCARB, LEED AP, is an architect and green building consultant who has authored over 100 continuing education and technical publications as part of a nationwide practice. www.linkedin.com/in/pjaarch

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CIRCLE 148

Photo courtesy of Kalban Architects



Folding glass doors connect interior spaces with the outdoors. At the Viewpoint School in Calabasas, California, Kalban Architects used a zero post corner system to completely open up the Fletcher Family Library to the courtyard when desired.

Folding Glass Doors Are an Asset for Commercial Spaces

Aesthetic, high-performance options maximize space and light

Sponsored by LaCantina Doors

With some 90 percent of Americans spending most of their days indoors, one of the most salutary things an architect can do for a building is to open it up to the outdoors and natural light. Whether interior or exterior, folding glass doors represent an advantage to commercial properties in several respects: They bring richness and light to a room; they maximize space by opening a room up to the outdoors, or by reconfiguring interior areas; and they increase a building's energy performance and green building quotient. Today's profiles feature maximum glass and minimal frames, enhancing these benefits while creating a clean, crisp modern look. This article will discuss available options in glass folding doors for commercial projects, and address their performance characteristics in terms of energy efficiency, impact resistance, and sustainability. Also discussed will be ways in which glass folding doors can contribute to the health, safety, and welfare of building occupants, and new options in meeting requirements of the Americans with Disabilities Act (ADA).

COMMERCIAL APPLICATIONS

The purpose of folding glass doors is to connect the indoors and out by eliminating walls, to admit natural daylight into a building, and to reconfigure interior space for greater efficiency and flexibility. Both interior and exterior glass folding doors have long been used for these purposes to enhance a variety of commercial spaces.

Restaurant/Retail

For many restaurants and retail establishments, a folding glass door system provides a unique opportunity to maximize valuable and costly commercial space in a dramatic design element. The California-style, Rockwell VT restaurant, located just outside Hollywood, needed to open its first-level bar to a courtyard that is home to a huge oak tree. A clad glass folding door

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EARN ONE AIA/CES HSW LEARNING UNIT (LU)

EARN ONE GBCI CE HOUR FOR LEED CREDENTIAL MAINTENANCE

Learning Objectives

After reading this article, you should be able to:

1. Discuss how interior and exterior folding glass doors contribute to green building goals.
2. Name the sustainability benefits of natural daylighting and views.
3. Describe a recent ADA-compliant feature for doors in commercial projects.
4. Identify where glass doors can contribute to LEED points.

To receive credit, you are required to read the entire article and pass the test. Go to **ce.architecturalrecord.com** for complete text and to take the test for free.

AIA/CES COURSE #K1303N
GBCI COURSE # 0090009674

Photo courtesy of LaCantina Doors



An all-aluminum folding glass door system gives Lexus dealership customers a feeling of being in a high-end home.

system provided the necessary flexibility. With seven panels, all doors can be shut with just the daily door providing access. Alternatively, all panels can be open, giving the bar a seamless transition from inside to out and allowing bar goers room to move around. "In California we have a wonderful climate all year round, and these doors provided our customer the ability to make an indoor space immediately expand by including a patio, deck, or just the outdoors in that space through the opening of a door," says Claire Taylor, of Taylor Brothers Architectural Products. "The product configuration choices, by having single operating doors as well as the ability to open up the full wall, make this a very exciting product for us and extremely popular as well."

Photo courtesy of LaCantina Doors



At the Palms Place Hotel and Spa, a folding door system connects the Simon Restaurant and Lounge to the pool and spa areas.

Hotel/Resort

With destination properties competing for return guests, those with upscale features, memorable views, and expansive spaces have an advantage. For resort and hospitality properties, folding door systems can create large indoor/outdoor areas that enable users to enjoy the surroundings. With unobstructed views. Guest rooms, suites and villas, outdoor cabanas, and high-rise balconies can all be outfitted with folding doors.

At one of Las Vegas' hippest and most popular resorts, the Palms Place Hotel and Spa, a folding door system was used in the Simon Restaurant and Lounge. The concept was to connect the outdoor pool and spa area to the restaurant, with a clad folding door system chosen to reflect the elegant and open feel of the lounge and restaurant.

Showrooms

Glass is an ideal backdrop to showcase products, and has been incorporated in a number of showrooms as owners seek the flexibility and upscale visual aesthetic of glass door systems to reflect their corporate culture. The Lexus dealership located in Macon, Georgia, for example, wanted to encompass its mission statement—"relentless pursuit of perfection"—in the design of its showroom. The Lexus Covenant directs and guides the dealership to "treat each customer as we would a guest in our home." David Gibson of Butler Lexus wanted his customers to feel at home from the minute they walked in the front doors to the second they drove off the lot. An all-aluminum folding door system helped achieve the goal. "The doors gave our vehicle delivery room a great feel of being in an atmosphere of a high-end home as opposed to a traditional dealership with roll up doors," says Gibson. "The vehicle delivery home represents the end of a journey for our customers as they complete their luxury car buying experience. The end of the journey should leave a lasting impression. When the customer walks in, sees their new luxury automobile, and drives out through the opened doors, the world of driving and experiencing their new automobile opens up before them."

Continues at ce.architecturalrecord.com

LaCANTINA DOORS

LaCantina Doors is a pioneer in the design and manufacture of folding door systems. Focused efforts in product design & development have built an unmatched reputation for innovation, performance, quality, and value. From residential projects, to retail storefronts & restaurants, to hotels & resorts, to schools & libraries, LaCantina Doors is the preferred choice of architects, designers, contractors, and consumers throughout the U.S. and the world. **www.lacantinadoors.com**

CIRCLE 149

This article was originally published in March 2013.



Well-placed flashing membranes should be invisible and maximize moisture protection in cavity walls.

Photo courtesy of SmithGroupJJR

From Mortar Snots to Perpends: The Basics of Through-Wall Flashing

Detailing, specifying, and communicating basic through-wall flashing details avoid moisture damage to cavity walls

Sponsored by Hyload Inc. | *By Celeste Allen Novak, AIA, LEED AP*

The calls are unexpected. A few years after the successful grand opening, the client on the other end of the phone is complaining about water damage. Over the past few years, the lack of oversight on the cavity wall details during construction allowed water, drop-by-drop, to migrate into the building. Instead of allowing the building to breathe, these cavity walls created the perfect environment for mold—moisture, warm temperatures, and darkness.

Corrective remediation for even small drops of water in cavity walls can include everything from the replacement of surface finishes to structural systems. When the building failures occur in a high-rise masonry building, the damage is even more difficult to repair. Masonry buildings located near oceans are particularly vulnerable to damage due to the high salinity of rainwater. The list of common problems found by building experts, in damaged cavity wall systems include:

- Damage to interior finishes, including carpets, drywall, and cabinetry.
- Rusting of galvanized steel studs.
- Corrosion of metal wall fasteners.
- Corrosion to steel relieving angles and structural failures around openings.

Water in buildings is invasive, costly, and avoidable. Architect and senior project manager at Bowie Gridley Architects, Robert Allen, AIA, recalls the destruction of almost the entire wood structural framing system of a stone-veneered home he investigated for mold and structural damage in Virginia, due to recurring water penetration into the framing cavities. Remediation was both costly and time consuming. In his experience in commercial projects, flashing details are a critical element to the durability of a high-performing building: "Experience teaches us that it is not a question of IF an exterior surface will allow water penetration, but rather, how do we address it WHEN it will happen. Flashing and membrane details are key to extending the life of building wall and roof systems, and maintaining a

healthy living environment within a structure."

Design professionals provide the lead in detailing wall systems and they are responsible for communicating clearly to the contractor and subcontractors the best methods for constructing durable masonry cavity wall systems. The problem is that there is a lack of knowledge regarding through-wall flashing and masonry construction. Today's architects are exploring many new computer-generated building designs. These may include unusual terminations of wall, floor-plates, and windows that provide challenges to masons who are familiar only with traditional wall cavity construction. The art and science of designing a durable cavity wall with proper through-wall flashing requires the collaboration of all of the team members on a project and the use of new high-performance membranes.

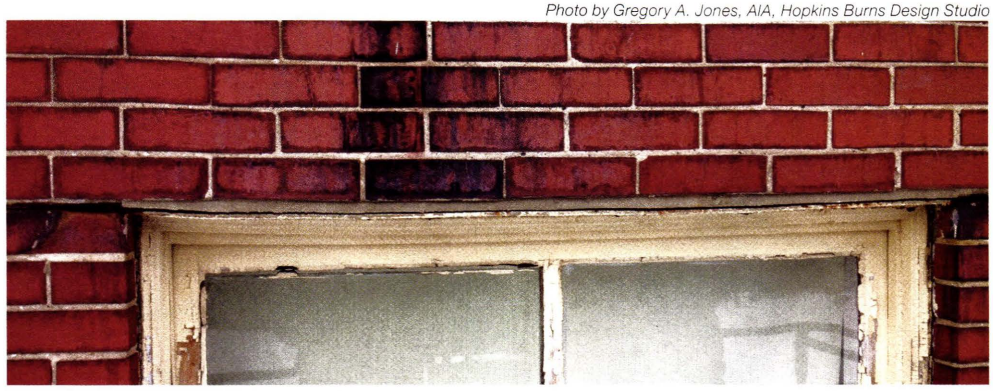
CAVITY WALLS AND THROUGH-WALL FLASHING

There are two common types of masonry cavity wall construction. A cavity wall is constructed of two "wythes" of masonry separated by an opening of varying dimension. The term *wythe* is from old English as are many of the words used to describe masonry systems. Although masonry walls were used by the ancient Chinese, Greeks, and Romans, according to the Masonry Advisory Council, "Sometime in the early part of the 19th century, the cavity wall was probably reinvented by the British. Plans dating as early as 1805 suggest a type of construction, featuring two leaves of brickwork, bonded by headers spanning across a 6-inch cavity."[1] Early British publications suggest that cavity wall construction was a means to protect buildings from moisture penetration.

There are two types of cavity walls, the first using brick with a masonry block back up. The second type of cavity wall system uses metal ties to hold the walls together. Sometime in the mid-1800s, wrought iron ties were introduced in Southern England as part of a composite wall system. Cavity wall design came to the U.S. from Europe in the 1920s. Before that, barrier walls or composite walls with numerous layers of brick were used to construct most masonry buildings. In the 20th century, the second type of wall construction typically included an exterior brick wall connected by metal ties to a metal or wood stud wall.

Conceptually, moisture control in masonry walls is passive aggressive. Moisture that penetrates masonry veneer is allowed through the wall to run down its back face, dropping to the flashing and out through the weep system. Building paper, vapor barrier membranes or fluids are brought down the face of the back-up wall in a shingle fashion to shed any water to a waterproof flashing membrane. Wood studs are usually used in residential construction and steel studs for commercial work. "Through-wall" waterproof flashing membrane closes the gap between the two segments of the wall. The flashing provides a path for moisture to drain along the face of the back-up wall to the exterior of the building.

Photo by Gregory A. Jones, AIA, Hopkins Burns Design Studio



Lack of flashing and weeps has allowed water to collect on the top of the lintel, causing rust. Rust jacking has lifted the masonry above by approximately 3/8 inch, and deflected the lintel downward in the center where there is nothing to resist the rust's expansive forces.

Gregory A. Jones, AIA, preservation architect with Hopkins Burns Design Studio, comments, "Historic buildings often totally lack flashing in locations where it would normally be used in modern construction.

"A common flashing issue in historic buildings is the lack of flashing and weeps over steel lintels. Since non-galvanized lintels were typically used in buildings into the mid-20th century, the lack of flashing frequently contributes to a condition known as rust jacking. Moisture that enters walls above lintels has no flashing to protect the lintel and no weeps to direct moisture out of the wall. As a result, moisture collects on the lintel causing it to rust and expand several times its original thickness. This results in expansive forces that can literally lift thousands of pounds of masonry veneer and introduce significant cracking into walls and/or cause spalling of brickwork, as well as deflection of the lintel. Correction of this condition usually consists of replacement of lintels with new galvanized lintels and addition of flashing and weeps to protect the lintel."

Through-wall flashing is usually adhered to the back-up wall whether it is drywall, insulation, or wood. The cavity between the exterior and back-up wall systems is the "rain plane," the place where smart design controls moisture penetration.

See endnote in the online version of this article.

Continues at ce.architecturalrecord.com

Architect Celeste Allen Novak, FAIA, LEED AP, *specializes in sustainable design and planning in Ann Arbor, Michigan. She is the author of "Designing Rainwater Harvesting Systems: Integrating Rainwater Into Building Systems." www.celesteallennovakarchitect.com*

CONTINUING EDUCATION

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Learning Objectives

After reading this article, you should be able to:

1. Discuss the advantages of providing the correct through-wall flashing systems for buildings with cavity walls.
2. Diagnose water damage problems in existing cavity walls caused by poor flashing details and propose alternative solutions.
3. Review common preformed flashing shapes that address difficult building corner and end conditions.
4. Examine communication techniques with contractors and subcontractors to use for the specification of effective through-wall flashing details.

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CIRCLE 150

All photos courtesy of Parasoleil



Use architectural panels with patterned openings to create stunning partitions, create shade, or camouflage unsightly equipment.
DESIGN: STUDIO DELA ROSA

Pattern Mapping for Lasting Design

A study in the practical use of patterned panels for shade, screening, and cladding

Sponsored by Parasoleil | *By Jeanette Fitzgerald Pitts*

In its most basic definition, a pattern, as it defines a principle of art or architecture, is a repetition of an element (or elements) in a work. While the definition and regular use of patterns in architecture may be common knowledge to the design community, revealing the power of the pattern to highlight, hide, partition, and shade, while creating points of visual interest, may reposition the pattern as a powerful new tool in a designer's toolbox. Today, the pattern offers more to architecture and design than merely an aesthetic upgrade. The pattern is functional.

RECOGNIZING AND RESPONDING TO PATTERNS

The key to understanding how patterns can so successfully manipulate a person's experience in a space lies in understanding how people recognize and respond to patterns. Human beings are preprogrammed to recognize patterns, even without looking directly at them. The human eye sees the world with two distinct types of vision, often referred to as peripheral and central vision. Interestingly, these two different types of vision are directly tied to two different areas of the brain. Patterns are recognized by both types of vision and intrigue both parts of the brain.

Patterns are first detected in the peripheral vision. This is a person's ability to detect aspects of those surroundings without focusing on the particulars of his or her surroundings. This type of vision is tied to the same centers of the brain that are responsible for managing the body's fight or flight response. Experts credit this proclivity for pattern perception as a talent that was honed when human survival required recognizing threats, like a tiger in the nearby grass. Even though tigers no longer play a role in our daily lives, this heightened ability to perceive patterns persists.

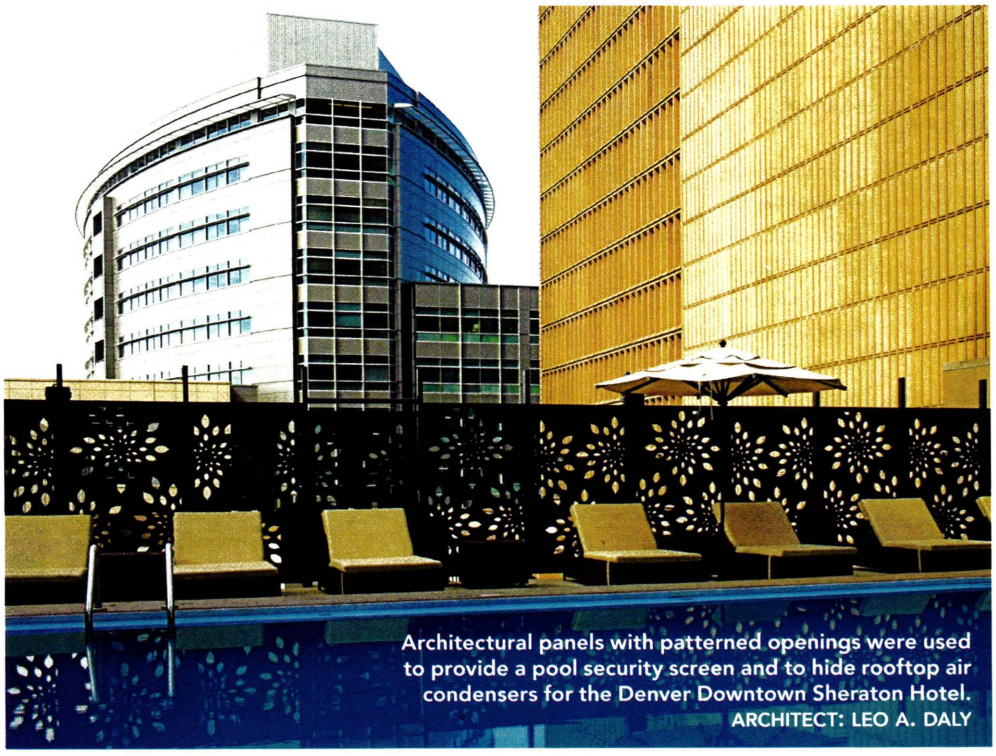
Central vision has a unique attraction to patterns as well. In fact, it seems that the eye is drawn toward contrast and patterns and will focus on these elements before a solid color. Photographers and graphic designers often employ this rule of thumb and use contrast and pattern to highlight or camouflage aspects of a shot or subject.

USING PATTERNS IN SPACE

This innate awareness of and affinity for patterns make them a powerful tool for architects to help people make sense of and navigate a space. Patterns can be used to highlight how a space is organized. They can hide unattractive aspects of a project, provide privacy, or enhance the architectural identity of a building. Patterns can even be used to provide shading and make exterior spaces more comfortable throughout the day, while creating an interactive experience of art in shadow.

Help Occupants Understand the Space

Materials that prominently feature a pattern can successfully garner the attention of an



Architectural panels with patterned openings were used to provide a pool security screen and to hide rooftop air condensers for the Denver Downtown Sheraton Hotel.
ARCHITECT: LEO A. DALY

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Learning Objectives
After reading this article, you should be able to:

1. Compare patterns on a pattern map.
2. Explain how different characteristics of a pattern functionally and aesthetically impact the visual space.
3. Select the openness factor and base material that will help to meet project objectives.
4. Apply best practices to provide privacy, camouflage, shade, or secure railings with architectural panels with patterned openings.

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occupant, regardless of whether the pattern is visible in the central field of vision or on the periphery. This predisposition to recognize patterns can be used to help occupants identify security railings and paths of egress and help them understand how a larger space is organized or partitioned into smaller segments.

Create Privacy or Hide Eyesores

Patterned materials, although not opaque, offer effective visual barriers in spaces, creating privacy or effectively hiding trash cans or mechanical devices. This is due, in part, to the physiological function of the human eye. As previously discussed, the eye is naturally drawn to patterns and the eye is only capable of focusing on one item at a time. If the eye is focused on the patterned panel, it cannot simultaneously focus on the items behind the patterned panel.

Provide Shading

The open nature of the physical pattern creates an opportunity to use patterned panels as a shading mechanism that will allow some of the sun's rays to pass through the open areas, while providing a significant degree of shade and allowing airflow to circulate effectively. It should be noted that a patterned panel used to provide shade also offers occupants a unique interaction with shadow and the dynamic nature of sunlight as the sun progresses along its daily path.

Enhance or Modify Architectural Identity

Patterns can also be used to update the physical structure of a building in a few different ways. Applying a pattern to the façade of a building, or to skin an interior wall, can enhance the existing lines in newer, more modern materials or add contrasting elements to repurpose a structure and breathe new life into an older, utilitarian design. Patterns can also be used to create new walls or partitioning surfaces that can expand or modify the footprint of the original space.

Historical Uses of Patterns

Historically, patterns have been incorporated into art and architecture for a number of reasons. For purely aesthetic benefit, patterns have been hand-carved into stone and marble edifices, painted on solid surfaces, and woven into textiles for interior or exterior display. For centuries, Middle Eastern architecture has featured an intricately patterned wood or copper screen, called *mashrabiya*, that is placed over windows and building façades to provide shade and to help dissipate the incredible solar heat gain that can occur in that desert region. Delicate patterned screens adorned Catholic confessionals, providing beauty, separation, and concealment of identity from one side to the other, but allowing conversation and the confession to flow easily through the perforations. Creating these beautiful and functional patterned structures and materials was time consuming, but the prevalence of pattern found throughout history indicates that the aesthetic improvement was considered worth the effort.

INTRODUCING ARCHITECTURAL PANELS WITH PATTERNED OPENINGS

Today, advancements in materials and manufacturing processes make it possible to machine a panel of aluminum, copper, or steel with a pattern quickly and cost-effectively. Referred to as an architectural panel with a patterned opening, this new option for bringing pattern into a space is created by cutting a pattern out of a solid material panel. The resulting panel not only contains a visually interesting pattern, but the open, cut-out nature of the pattern invites daylight and airflow into the experience as well. These panels, if designed for structural integrity, can be applied as overhead shade, architectural privacy screens, ornamental metalwork gates and railings, and even commercial building façade treatments.

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Parasoleil manufactures a line of elegant, structurally tested panel systems in aluminum with award-winning Patina Powdercoats. Parasoleil patterns filter light in overhead shade applications, frame space with privacy screens and railings,and reduce the heat gain on a building as off-set cladding, light shelves. Panels are also used to hide equipment areas, identify neighborhoods, and as public art installations. **www.parasoleil.com**

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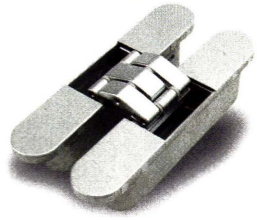
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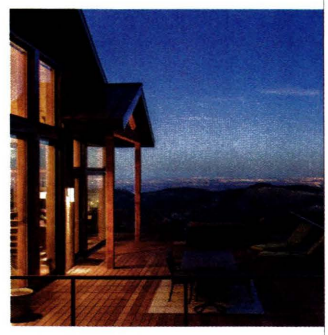
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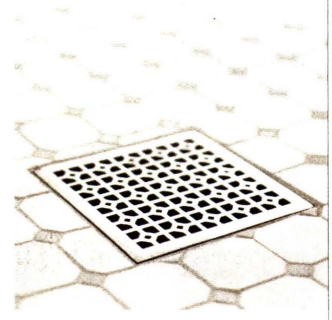
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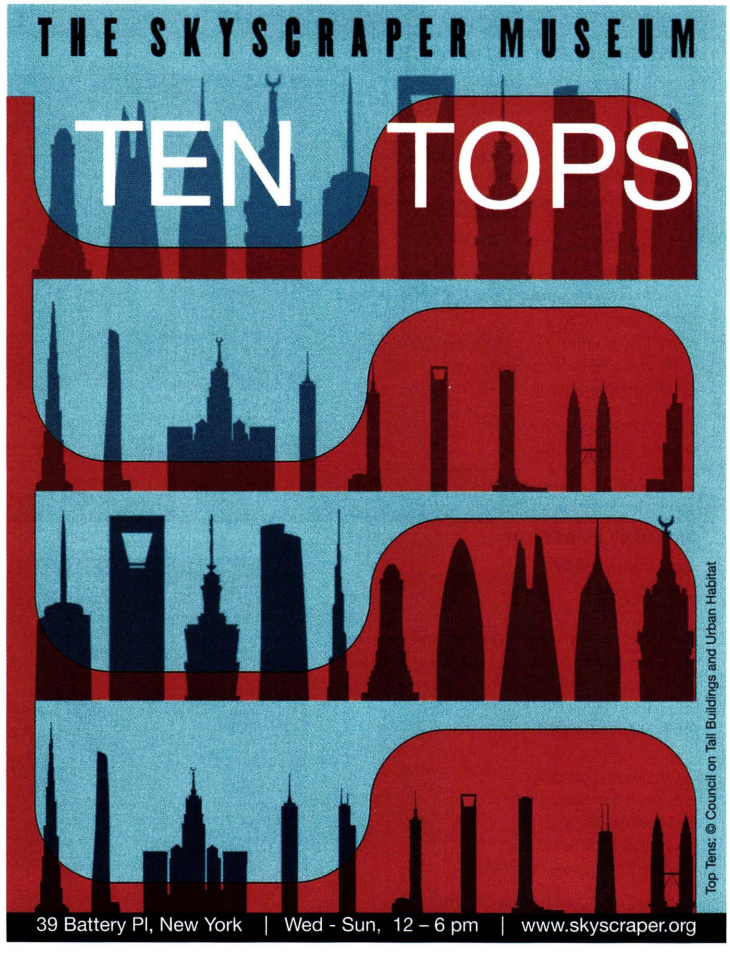


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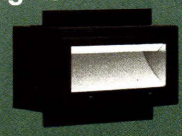


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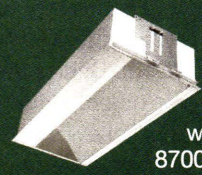




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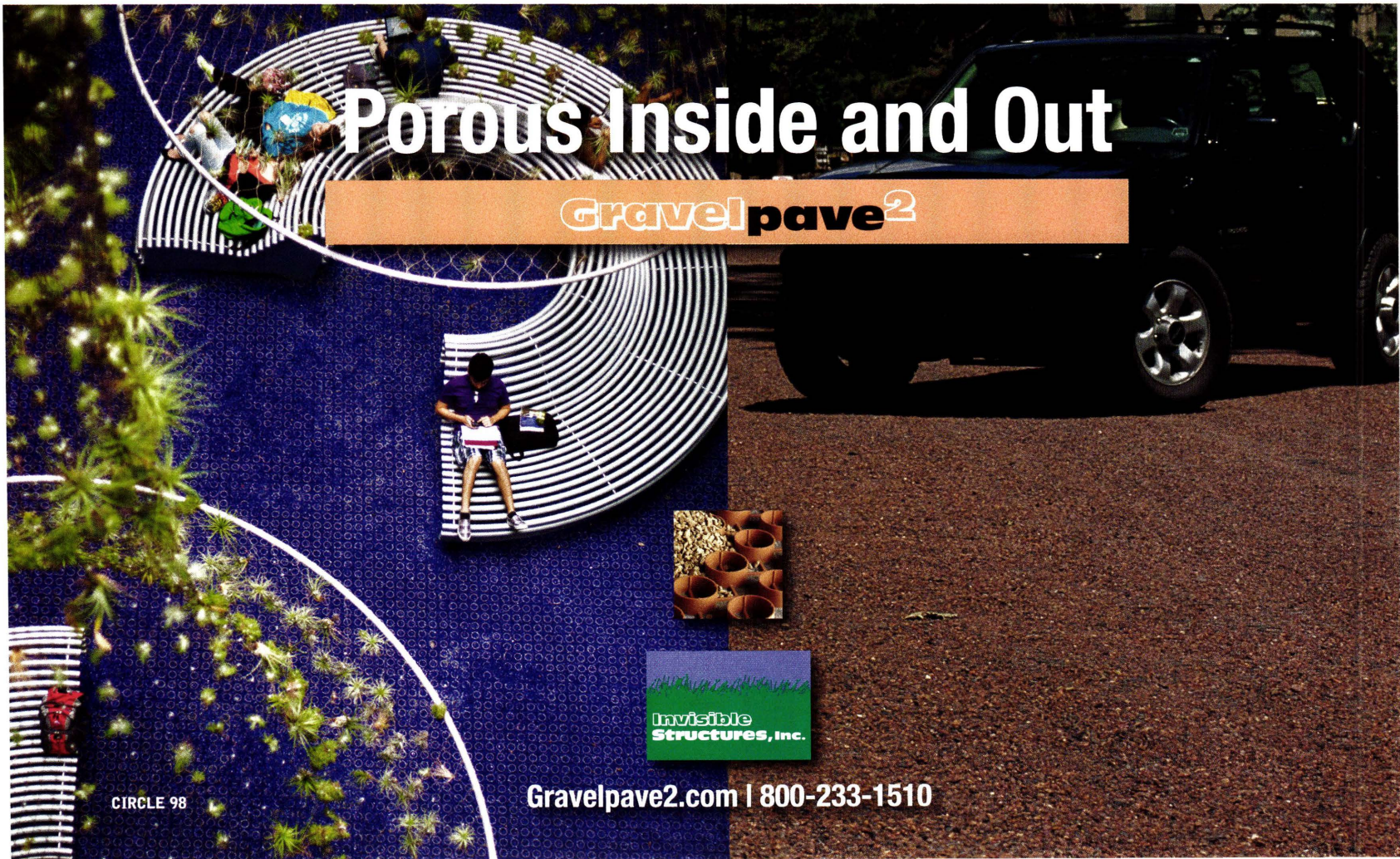
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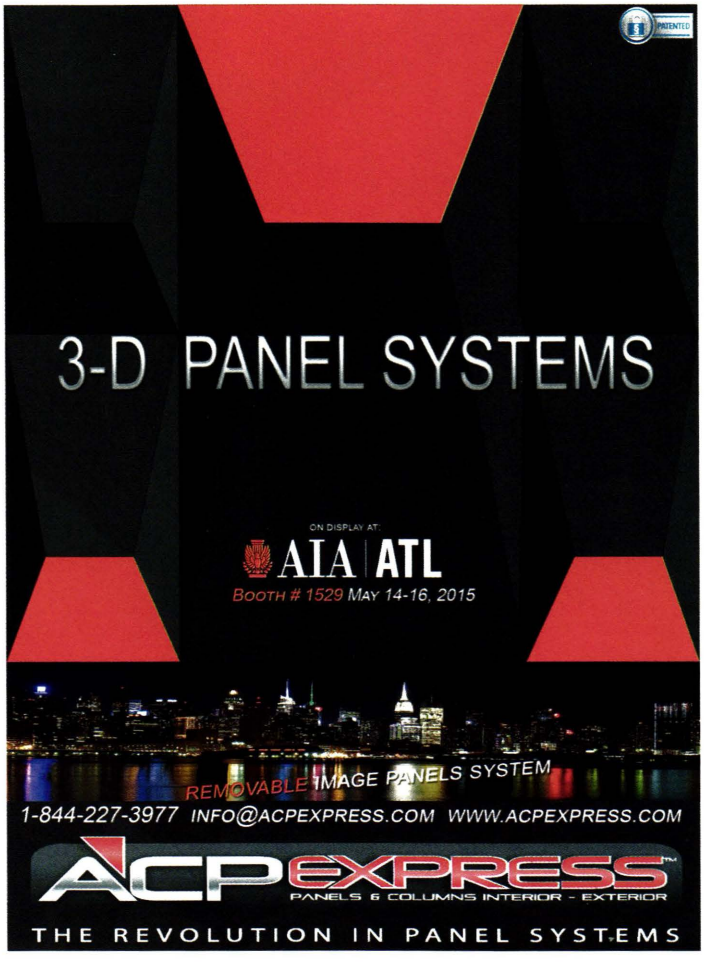




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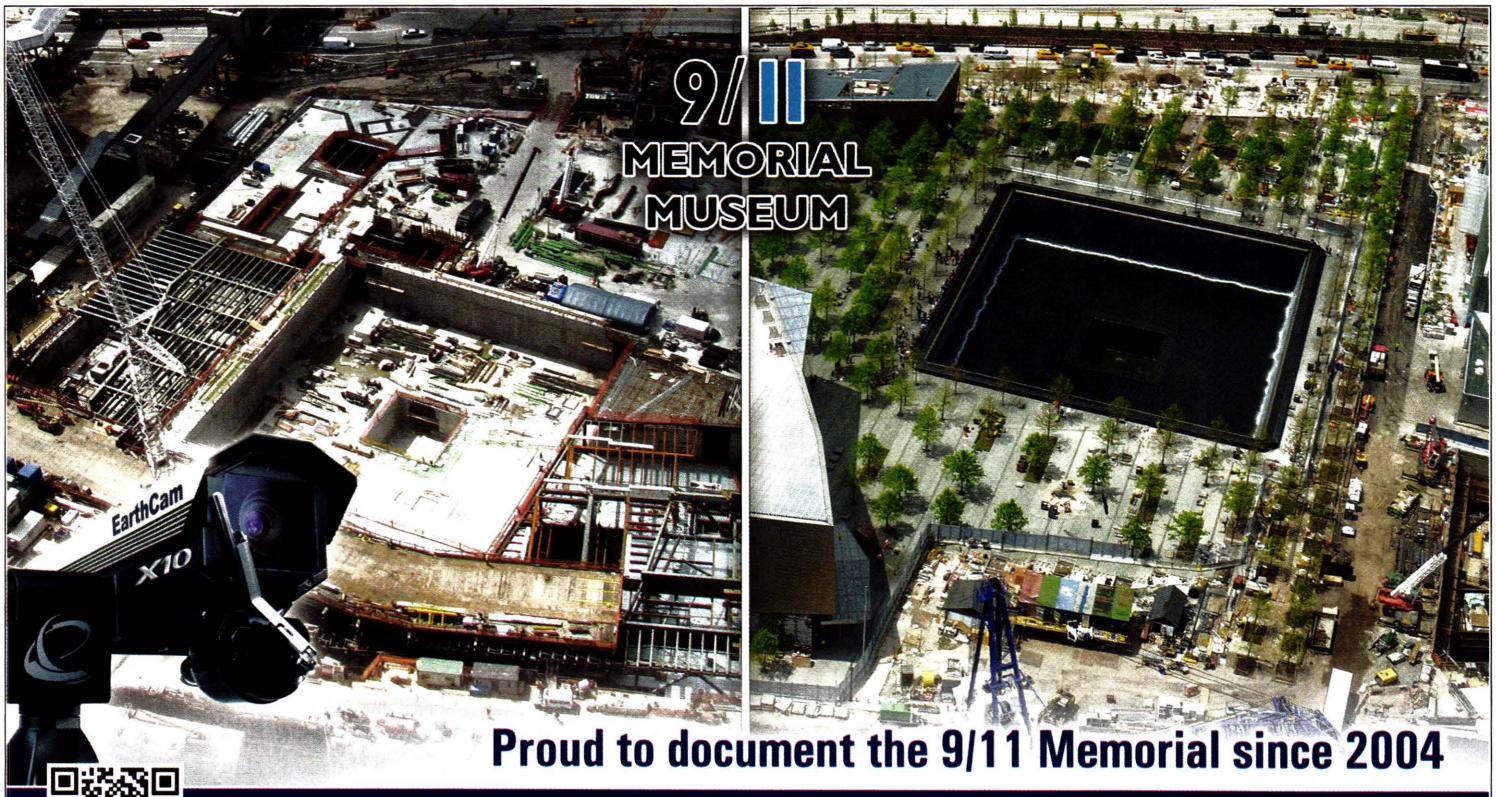
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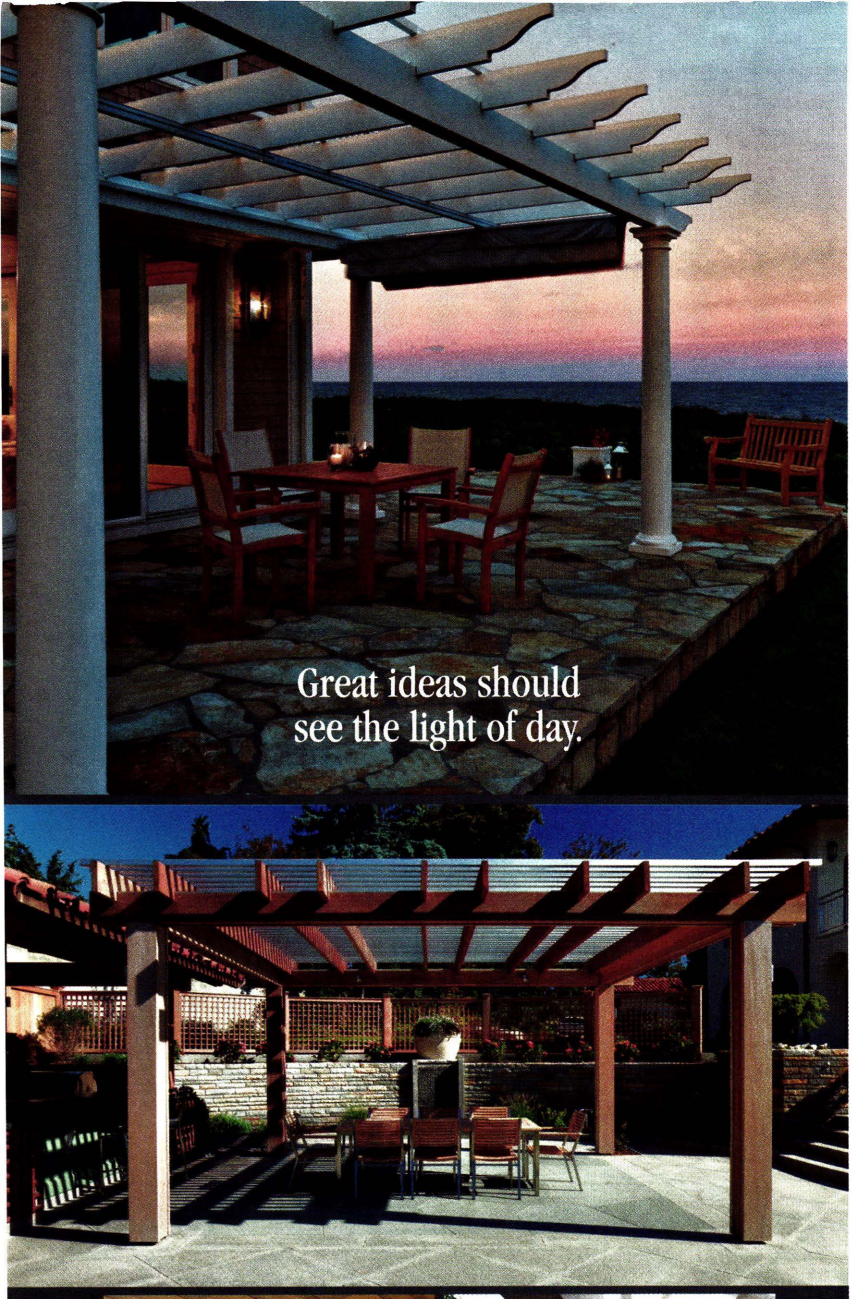


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New and Upcoming Exhibitions

In-Depth & Children's Tours of the Glass House
New Canaan, Connecticut
May 1–November 30, 2015
In this most comprehensive tour of the Glass House, visitors will enjoy unparalleled access to the 49-acre site in the course of three hours. In addition, the Club Glass House After School Tour, designed for children in grades 6 through 8, will introduce students to architecture, contemporary art, and craftsmanship through the lens of the Glass House; available on select Monday afternoons. Visit theglasshouse.org.

Folly 2015: Torqueing Spheres
Long Island City, New York
May 17–August 30, 2015
The Architectural League of New York and Socrates Sculpture Park present the winning proposal for the 2015 Folly Program, an annual juried competition targeted to early-career architects and designers. This year, Cambridge- and Philadelphia-based firm IK Studio's *Torqueing Spheres* will transform a series of intertwining sculpted forms into a meandering folly. Its deep self-supporting chambers create opportunities for both collective experience and individual reflection. *Torqueing Spheres* will be erected at the Socrates Sculpture Park. Visit archleague.org.

Frank Gehry
Los Angeles
September 13, 2015–March 20, 2016
Frank Gehry's buildings have altered architecture's relationship to the city, both socially and aesthetically, and his pioneering work in digital technologies set in motion the practices employed by the construction industry today. This Los Angeles County Museum of Art exhibition is a comprehensive overview of Gehry's extraordinary body of work. The show begins in the early 1960s—Gehry established his firm in Los Angeles in 1962—and runs to the present. Many of the 200 drawings have never been seen publicly, and 65 models illuminate the evolution of Gehry's thinking. Visit lacma.org.

David Adjaye: Architecture for Social Change
Chicago
September 19, 2015–January 3, 2016
With more than 50 projects constructed across the world, David Adjaye is rapidly emerging as a major figure in architecture and design. This first-ever retrospective, at the Art Institute of Chicago, spans from furniture and housing to public buildings and master plans; it features drawings, sketches, models, and building mock-ups. The exhibition also immerses viewers in Adjaye's distinct approach and visual language through a dynamic installation conceived by his eponymous studio. Visit artic.edu.

Ongoing Exhibitions

Fay Jones and Frank Lloyd Wright: Organic Architecture Comes to Arkansas
This online exhibit documents the affiliation between these two luminaries, developed through the men's shared vision of a harmonious and seamless relationship between the built environment and nature. The collection consists of nearly 150 photographs of the architects' work, families, and colleagues.

Correspondence, lectures, musings and writings, and other media are included. To view the digital exhibit, visit digitalcollections.uark.edu/cdm/landingpage/collection/joneswright.

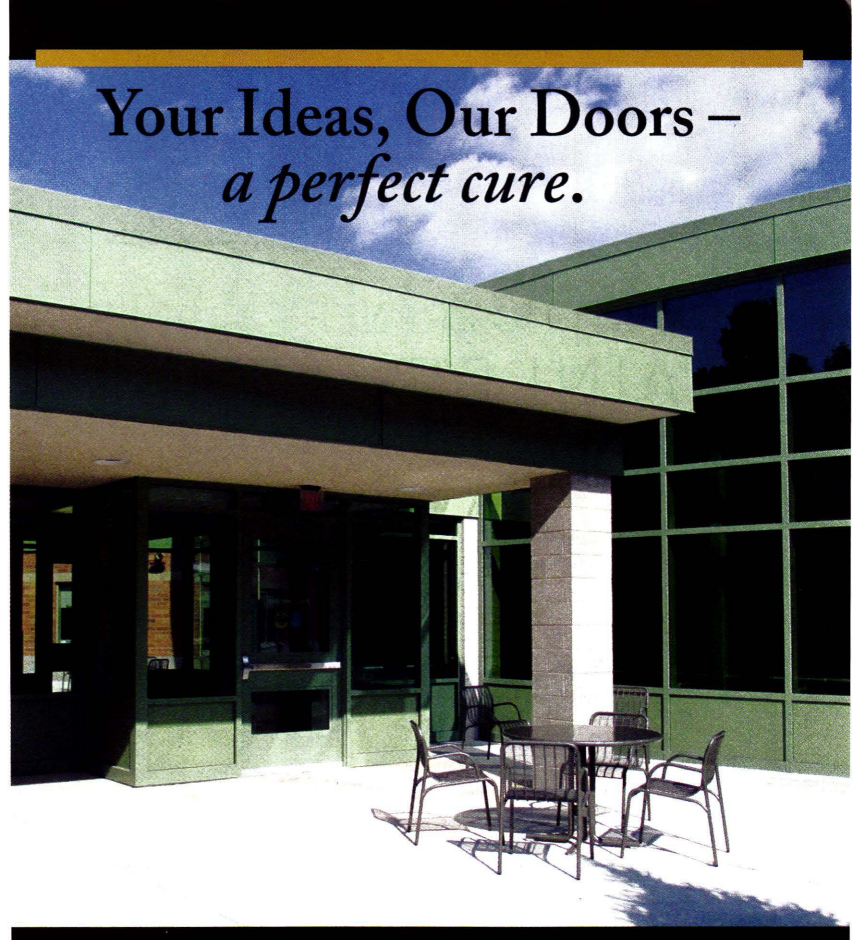
Guggenheim Helsinki Now
Helsinki
Through May 16, 2015
Free and open to the public, *Guggenheim Helsinki Now* surveys the final designs submitted by the six teams shortlisted for the Guggenheim Helsinki Design Competition. It will also feature 15 designs awarded honorable mentions by the jury, as well as interactive installations that present analyses and interpretations of some of the 1,715 submissions to the competition. At Kunsthalle Helsinki. For more information, visit guggenheim.org.

Moderno: Design for Living in Brazil, Mexico, and Venezuela, 1940–1978
New York City
Through May 16, 2015
The mid 20th century was a highly innovative time for design in Latin America. Now on view at the Americas Society, *Moderno* reveals the complexity of creating interiors at a time of rapid modernization. The exhibition brings together roughly 80 pieces of one-of-a-kind and mass-produced household objects; much of this furniture, metalwork, and other material is available for public viewing for the first time. Visit as-coa.org.

Hypostyle
Los Angeles
Through May 17, 2015
The Southern California Institute of Architecture presents *Hypostyle*, a site-specific SCI-Arc Gallery installation by architect Henry N. Cobb. Hypostyles have traditionally been constructed as halls, where highly ordered arrays of vertical supports populate roofed spaces. The hypostyle on display in the SCI-Arc Gallery is an experiment, meant to explore the experiential consequence of populating a hypostyle not with columnar solids, but with planar elements joined to form vertical constructs that shape figural spaces both within and between them. Visit sciarc.edu.

Prague Functionalism: Tradition and Contemporary Echoes
New York City
Through May 23, 2015
The Center for Architecture presents the U.S. premiere of *Prague Functionalism*, the venue's first major exhibition to focus on Eastern European design. The exhibition presents photographs, drawings, and artifacts of Prague's Functionalist buildings. The first section of the exhibition focuses on the 1920s and '30s, and the second section presents contemporary projects influenced by Czech Functionalist tradition. Texts by architectural scholars and researchers accompany the photographs. Visit aiany.org.

Provocations: The Architecture and Design of Heatherwick Studio
Los Angeles
Through May 24, 2015
Provocations, at the Hammer Museum, features the imaginative work of Thomas Heatherwick. The British designer's eponymous London firm is known for unique design concepts ranging from products to large-scale structures. A selection of Heatherwick Studio's projects will be on display, including prototypes, large-scale models, objects, photographs, and film. All show how the firm combines innovative



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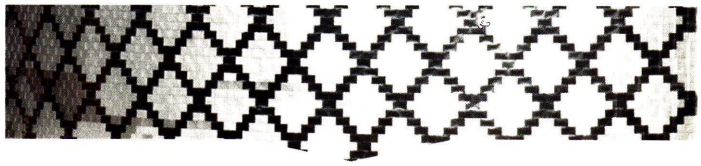
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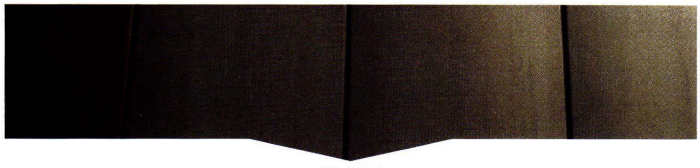
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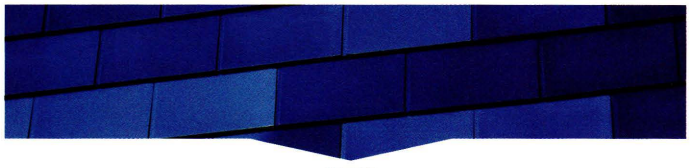
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Uneven Growth: Tactical Urbanisms for Expanding Megacities
New York City
Through May 25, 2015
As the world's population approaches 8 billion, city authorities, urban planners and designers, economists, and others will have to join forces to ensure that expanding megacities remain habitable. *Uneven Growth* at the Museum of Modern Art engages this international debate by showcasing design proposals for Hong Kong, Istanbul, Lagos, Mumbai, New York, and Rio de Janeiro by six interdisciplinary teams. The projects show how emergent forms of tactical urbanism can respond to the public space, housing, mobility, and other shifting urban contexts. For more information, visit moma.org.

A Home for Art: Edward Larrabee Barnes and the KMA
Katonah, New York
Through June 28, 2015
The Katonah Museum of Art will celebrate the silver anniversary of its landmark building by Edward Larrabee Barnes with an exhibition that highlights the Westchester County work of this legendary architect, who also lived in the area. The exhibition surveys Barnes's career and seminal role in modern architecture. In addition to featuring the many Westchester homes designed by Barnes, the exhibition looks closely at the Katonah Museum—distinguished from the architect's other large projects by its personal expression and informal, domestic feel. For more information, visit katonahmuseum.org.

Book for Architects
New York City
Through July 5, 2015
Wolfgang Tillmans's installation at the Metropolitan Museum of Art, *Book for Architects*, is on view for the first time since its debut at the 2014 Venice Architecture Biennale. Over a period of 10 years, Tillmans photographed buildings in 37 countries on five continents; *Book for Architects* presents 450 of these photographs in a site-specific two-channel video installation projected onto perpendicular walls. The display expresses the complexity, irrationality, madness, and beauty of the quotidian built environment. Visit metmuseum.org.

Modeling the Synagogue–from Dura to Touro
New York City
Through July 5, 2015
Yeshiva University Museum's newest major exhibition features a collection of small wonders: 10 remarkably detailed and accurate architectural models of some of history's most significant synagogues. The maquettes reflect the geographic and cultural breadth of the Jewish world across the centuries, from Dura-Europos in third-century Syria to Tempio Israelitico in 19th-century Florence. Visit yumuseum.org.

Chatter: Architecture Talks Back
Chicago
Through July 12, 2015
Architecture is a perpetual conversation between the present and the past, with the knowledge that the future is listening. So what happens when this exchange is influenced by contemporary modes of communication such as texting, Twitter, and Instagram? For *Chatter*, the Art Institute of Chicago looks at five emerging architects' (Bureau Spectacular, Erin Besler, Fake Industries Architectural Agonism, Formlessfinder, and John Szot Studio) approach to dialogue. For the exhi-

bition, Iker Gil, director of the design publication *MAS Context*, also conceived an installation to explore the myriad ways in which architecture is conveyed. Visit artic.edu.

Everything is Design: The Work of Paul Rand
New York City
Through July 19, 2015
The Museum of the City of New York showcases the monumental career of Paul Rand, who is often called the "Picasso of graphic design." The exhibition includes 150 pieces of Rand's work, among them his pioneering corporate communications and rebranding campaigns for IBM, as well as groundbreaking logos for ABC, UPS, Westinghouse, Morningstar, and Steve Jobs's NeXT project. Visit mcny.org.

Lina Bo Bardi: Together
Chicago
Through July 25, 2015
The Graham Foundation is pleased to announce the first U.S. presentation of *Lina Bo Bardi: Together*, which pays tribute to the work and legacy of 20th-century Italian-Brazilian architect Lina Bo Bardi. Featuring new works by artist Madelon Vriesendorp, filmmaker Tapio Snellman, and photographer Ioana Marinescu, this exhibition endeavors to inspire new conversations around her work. It brings to life the experience of Bo Bardi's buildings and illuminates an inclusive approach to design that aimed to eschew aesthetic and social hierarchies to create a genuine Brazilian experience. Visit grahamfoundation.org.

Design for Healthy Living
Atlanta
Through August 9, 2015
The physical environments in which humans live, work, and play greatly impact well-being. Too often, however, design does not support healthy habits and practices. The active design movement responds to this problem by advocating the development of buildings, streets, and neighborhoods that makes daily physical activity and healthy eating more accessible and inviting. Held at the Museum of Design Atlanta, *Design for Healthy Living* will explore specific active-design strategies through case studies, videos, models, and activities. Visit museumofdesign.org.

Sketch to Structure
Pittsburgh
Through August 17, 2015
Sketch to Structure lays out the architectural-design process to show visitors how buildings take shape. With sketches, plans, blueprints, renderings, and models from the Heinz Architectural Center collection, this exhibition reveals that the journey from initial concept to client presentation is not straightforward. Held at the Carnegie Museum of Art. For more information, visit cmoa.org.

Century of the Child
Copenhagen
Through August 30, 2015
At Designmuseum Denmark's new exhibition *Century of the Child*, visitors step into a children's universe, from junk playgrounds to LEGO constructions. Exploring 20th-century Nordic art, architecture, and design for children, this survey reflects shifting attitudes about childhood as well as the phenomenon of childhood itself. The exhibition covers key aspects of child-centered design in posters, toys, furniture, school construction, and playgrounds, with a particular focus on Danish design. Visit designmuseum.dk.



CIRCLE 100

Saving Place: 50 Years of New York City Landmarks
New York City
Through September 13, 2015
The Museum of the City of New York presents an exhibition exploring the roots and impact of landmark preservation. The movement developed over many years but was galvanized by large historic losses in the early 1960s, most notably the demolition of Pennsylvania Station in 1963. Through original documents, drawings, paintings, photographs, building pieces, and more, the exhibition surveys how landmarking has been an engine of New York's growth and success. Visit mcny.org.

Pathmakers: Women in Art, Craft and Design, Midcentury and Today
New York City
Through September 27, 2015
This Museum of Arts and Design exhibition considers women's significant contributions to Modernism in postwar visual culture. In the 1950s and '60s—an era when painting, sculpture, and architecture were dominated by men—women wielded considerable impact on alternative creative disciplines like textiles, ceramics, and metals. Featuring more than 100 works, *Pathmakers: Women in Art, Craft and Design, Midcentury and Today* focuses on the achievements of a core cadre of women that includes Ruth Asawa, Edith Heath, Sheila Hicks, Karen Karnes, Dorothy Liebes, Alice Kagawa Parrott, Toshiko Takaezu, Lenore Tawney, and Eva Zeisel. At the Museum of Arts & Design. Visit madmuseum.org.

Martin Beck: Program
Cambridge, Massachusetts
Through October 2016
The artist Martin Beck inaugurates the Carpenter Center's Institution (Building), a biennial for which artists are invited to consider institutional behaviors and practices at Harvard University. Beck's exhibition, *Program*, will take shape through a series of interventions, installations, events, and publications that draw upon the exhibition histories and academic pursuits of the Carpenter Center and Department of Visual and Environmental Studies. Visit ccva.fas.harvard.edu.

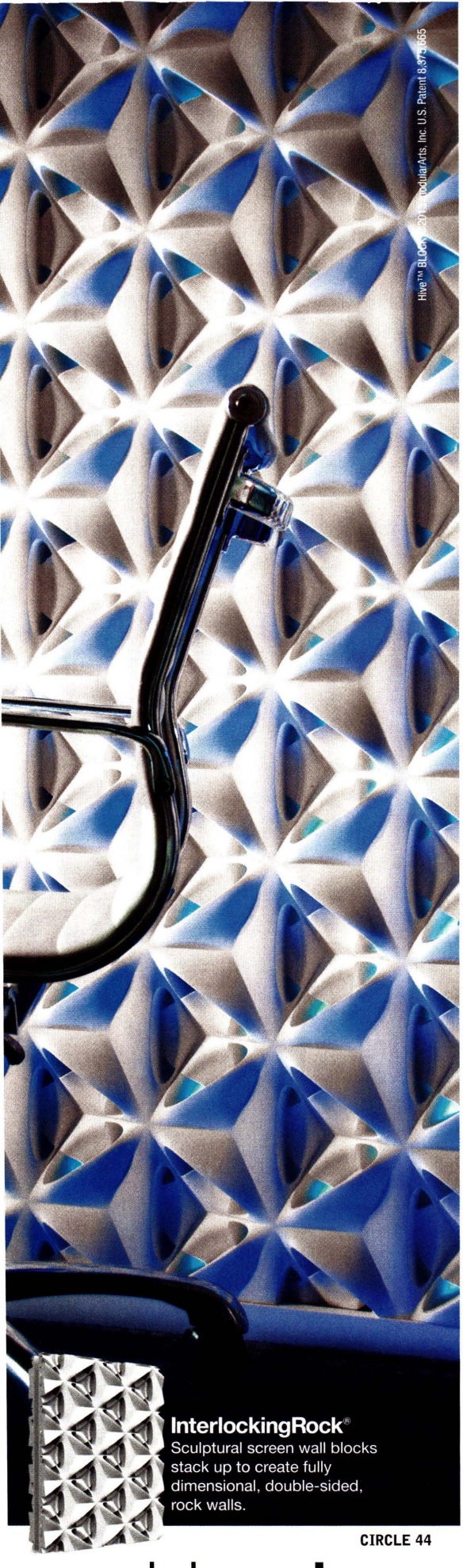
Lectures, Conferences, & Symposia

2015 Buell Dissertation Colloquium
New York City
May 8-9, 2015
The Temple Hoyne Buell Center for the Study of American Architecture's biennial Dissertation Colloquium brings together a select group of doctoral students from diverse institutional and disciplinary backgrounds working on dissertation topics related to the history, theory, and criticism of American architecture, urbanism, and landscape. The Dissertation Colloquium has been held since the Buell Center's founding in 1982, and its purpose is to provide a forum for discussing significant new work by emerging scholars. At Columbia University. Visit buellcenter.org.

BKLYN DESIGNS
New York City
May 8–10, 2015
Presented by the Brooklyn Chamber of Commerce at the Brooklyn Expo Center, *BKLYN DESIGNS* is a globally renowned juried exhibition of the best furniture, lighting, and home accessories made or designed in Brooklyn, NY. In addition to the inspiring products on display, the show features design talks and hands-on seminars as well as off-site exhibits and events. *BKLYN DESIGNS* is the official kick-off for the citywide NYCxDESIGN initiative. Visit bklyndesigns.com.

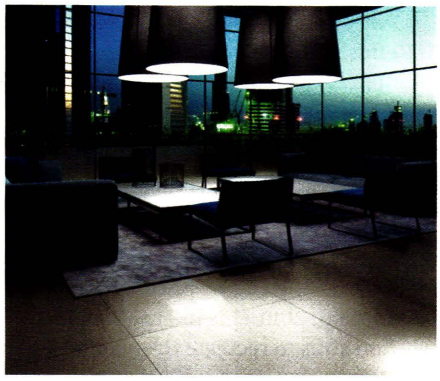
WantedDesign NYC
New York City
May 9–19, 2015
WantedDesign is a platform dedicated to promoting design and fostering the international creative community at large, throughout the year. Its marquee event, which takes place during NYCxDESIGN, serves as a meeting point for designers, manufacturers, craftsmen, students, the press, and all design lovers. May 2015 marks the first year for WantedDesign's new, second location: WantedDesign Brooklyn, at Industry City in Sunset Park. This strategic expansion reflects the growing importance of Brooklyn, New York, as a hub for multidisciplinary creative thinkers and makers. These events will offer installations, products, pop-up stores, interactive experiences, and student workshops. Visit wanteddesignnyc.com

Exploding Footnotes: Design Research in Action
New York City
May 13–18, 2015
Exploding Footnotes is an exhibition and live critique that showcases design research as a vital tool for inquiry. Organized by SVA MA Design Research, Writing & Criticism, the five-day exhibition will spotlight the diverse manifestations of research that underpin master's students' thesis projects, as well as explicate methods and approaches for investi-



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Tile Trends from Spain

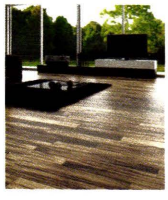


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gating design and its impacts generally. On May 13, this year's graduating students will present their research and engage in a critique with guest critics, following a fast-paced round of design presentations by graduating students. Organized in collaboration with Superscript cofounder Molly Heintz, graphic designer Neil Donnelly, and architect Jens Holm, founder and director of HAO/Holm Architecture Office. For more information, visit designresearch.sva.edu.

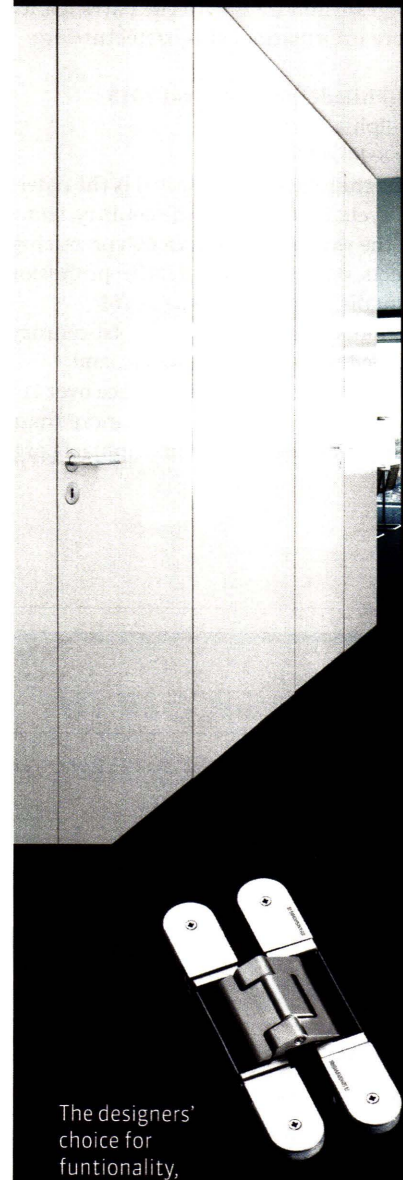
Designjunction New York
New York City
May 15–18, 2015
In May 2015, Designjunction will present *Designjunction Edit New York* for the first time, as part of NYCxDESIGN. *Designjunction Edit New York* will be a curated show of contemporary design presented in collaboration with Smallpond Agency, held against the industrial backdrop of ArtBeam in the Chelsea gallery district. More than 25 international brands will transform the building into a creative hub for design and culture. For more information, visit thedesignjunction.co.uk.

International Contemporary Furniture Fair (ICFF)
New York City
May 16–19, 2015
The 27th ICFF, North America's platform for global design, will map the newest frontier of contemporary design. ICFF is an encyclopedic exhibition of the timeless and the up to the minute, which it accompanies with a series of entertaining, edifying programs, as well as exhibits and features. At the Jacob K. Javits Convention Center. For more information, visit icff.com.

Ideas City 2015
New York City
May 28–30, 2015
The 2015 edition of Ideas City is the third biennial festival organized by the New Museum in partnership with the Architectural League of New York, Bowery Poetry Club, Cooper Union, the Drawing Center, and Storefront for Art and Architecture. This edition's theme, Invisible City, will be an invitation to explore transparency and surveillance, citizenship and representation, expression and suppression, and participation and dissent as defining forces within the contemporary city. For more information, visit ideas-city.org.

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dates&events

15th Glenn Murcutt International Architecture Master Class
Pittwater, Australia
July 5–19, 2015
For this two-week studio-based class, architects, postgraduates, and students convene at the Boyd Education Centre south of Sydney. Pritzger Prize–winner Glenn Murcutt leads the program and stays with the participants. For more information, visit ozetecture.org.

DesignPhiladelphia Festival 2015
Philadelphia
October 8–18, 2015
The DesignPhiladelphia Festival is the oldest design event of its kind in the country, showcasing the work of more than 400 practicing architects, designers, and creative professionals annually. This demonstration of Philadelphia's reemergence as a 21st-century city shaped by design, technology, and collaborating businesses takes place over 11 days in multiple venues, through more than 130 distinct events. Visit philadelphiacfa.org.

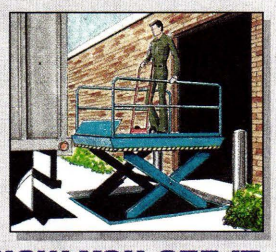
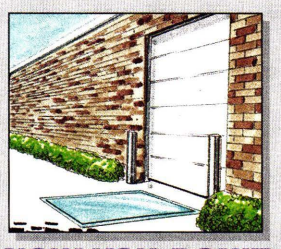
Competitions

The George Matsumoto Prize 2015
Submission Deadline: May 17, 2015
The George Matsumoto Prize is a unique design competition featuring $6,000 in awards, a blue-ribbon jury of architects and designers, and online public voting. The Matsumoto Prize encourages young architects and prospective clients to continue the Modernist movement in North Carolina's residential architecture. For more information, visit ncmodernist.org.

Tiny Home Community Ideas Competition
Registration Deadline: May 22, 2015
Members of the AIA North Carolina Activate14 committee and the Raleigh/Wake Partnership to End and Prevent Homelessness invite designers to propose ideas for a community of 12 tiny homes that would address urban homelessness. The competition site is composed of four vacant city-owned lots just outside Historic Boylan Heights in Raleigh, North Carolina. Winners will be publicly announced at the Activate14 Affordable Housing event held at the AIANC Center for Architecture and Design in Raleigh. For more information, visit activate14.com.

UD4U Kenosha Chrysler Plant Redevelopment
Registration Deadline: May 31, 2015
The histories of the city of Kenosha and the automobile industry are intertwined. The former Chrysler Kenosha Engine Plant property encompasses 107 acres located at 5555 30th Avenue in the heart of the city. With the engine plant out of service since fall 2010, this international competition aims to recreate the plant site as a vital urban area. Visit udforu.com.

E-mail information two months in advance to recordevents@construction.com. For more listings, visit architecturalrecord.com/news/events.

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CIRCLE 102

2015 CALL FOR ENTRIES
Record Kitchen & Bath

The editors of ARCHITECTURAL RECORD are currently accepting submissions for the **2015 Record Kitchen & Bath** competition. Entry is open to any registered architect who has completed an innovative residential and/or commercial kitchen or bath project in the last year. We are looking for projects that feature unexpected materials, address unique client needs, or are designed in a manner that allows these utilitarian spaces to be functional, sustainable, and beautiful. Winning projects will be featured in the September 2015 issue.

The fee is US$50 per entry. Download the official entry form with submission and payment instructions at architecturalrecord.com/call4entries. E-mail questions and submissions to ARCallForEntries@construction.com. (Please indicate **Record Kitchen & Bath** as the subject of the e-mail.) **Submissions are due May 29, 2015.**

2015 CALL FOR ENTRIES
Record Interiors



The editors of ARCHITECTURAL RECORD are currently inviting submissions for the **2015 Record Interiors** issue. All architects registered in the United States or abroad, as well as interior designers working in collaboration with architects, are welcome to submit interiors-only projects that have been completed in the last year. The projects may be new construction, renovation, or adaptive reuse; commercial or residential; domestic or international. Special consideration will be given to works that incorporate innovation in design, program, building technology, sustainability, and/or materials. The winning projects will be featured in the September 2015 issue.

The fee is US$75 per entry. Download the official entry form with submission and payment instructions at architecturalrecord.com/call4entries. E-mail questions and submissions to ARCallForEntries@construction.com. (Please indicate **Record Interiors** as the subject of the e-mail.) **Submissions are due May 29, 2015.**

David Gottfried's Regenerative Network

The foremost consortium of global green building manufacturers

The Regenerative Network exists to accelerate the adoption of high-performance disruptive green building products and strategies. It achieves this mission through its unique RegenForums, RegenCharrettes and RegenBids [bundled product solutions for building owners]. Exclusive RegenNetwork member companies are hand-selected based on sustainable building leadership, product performance and the ability to boldly interact and add value.

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Regenerative Network was established in 2010 by David Gottfried, founder of the U.S. Green Building Council and the World Green Building Council, and CEO of Regenerative Ventures.

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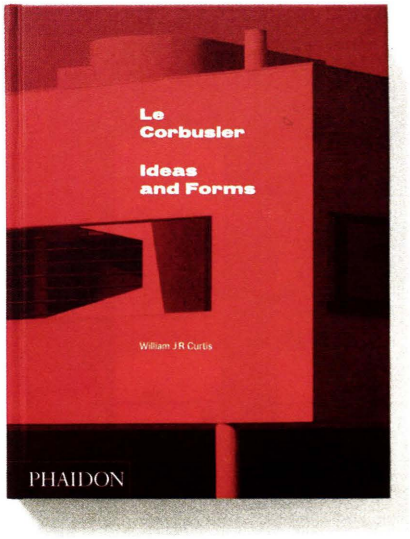
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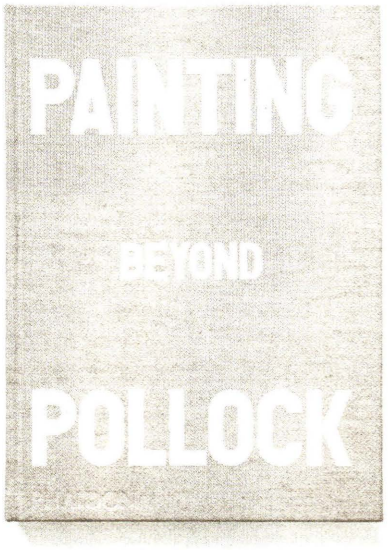
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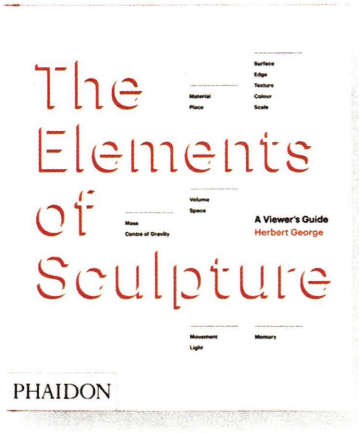
— President Bill Clinton

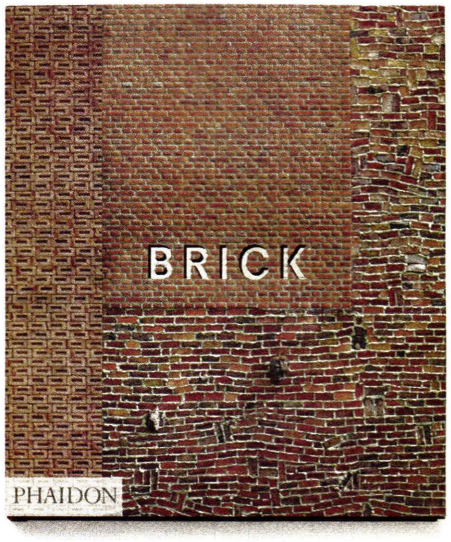
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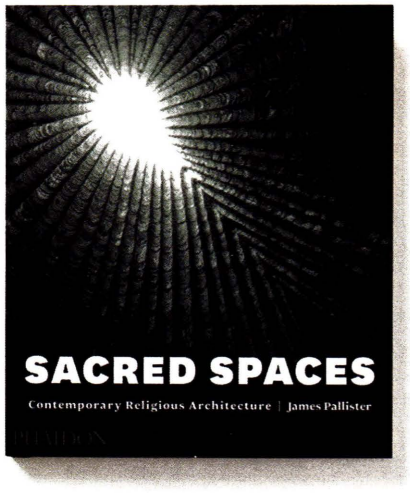
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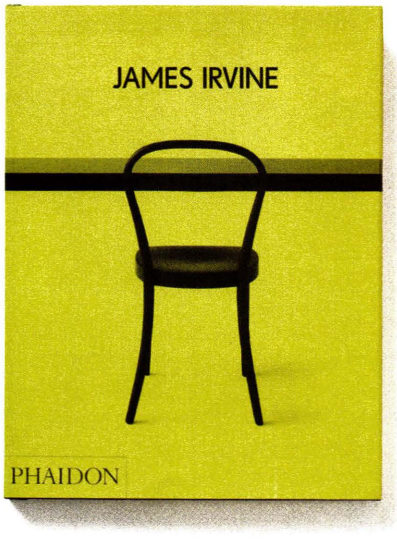












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snapshot

PROJECT ALCHEMIST
LOCATION MIAMI
DESIGNER RENE GONZALEZ ARCHITECT



THE NEW PALM COURT building in Miami's Design District is a jeweler's row, concentrating luxury brands like A. Lange & Söhne, Jaeger-LeCoultre, and Piaget in a line. While these shops mark their entrances to the Sou Fujimoto–designed building with logos and thresholds, the adjacent jewelry boutique, Alchemist, takes a different tack. Local architect Rene Gonzalez framed an expanse of rose-gold-colored mirrors with bands of clear glass, requiring shoppers to look twice for the front door and storefront display case. The mysterious composition is also a metaphor for Alchemist's stock-in-trade: nestled between the glass fins running up Palm Court's exterior, the facade resembles a gemstone, set within a shimmering crystal halo. *David Sokol*

PHOTOGRAPHY: © MICHAEL STAVARIDIS